

MAY 1961 • 40 CENTS

Consumer BULLETIN

The original consumer testing magazine

ANNUAL COMPACT CAR ISSUE

TESTS OF AUTOMATIC WASHERS

17 makes and models are
included in this report



HAND SPRAYERS FOR THE HOME GARDENER

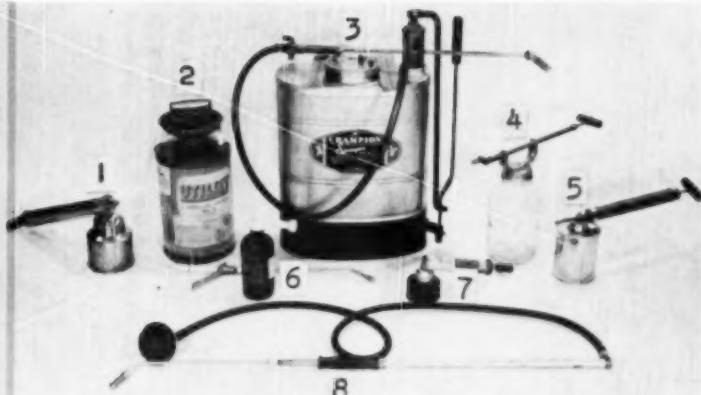
CHILDREN'S SHOES

PUBLISHED SINCE 1928

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COMPLETE CONTENTS ON PAGE 5

Hand sprayers for the home gardener



The various kinds of sprayers discussed are: Top row, left to right—1, continuous; 2, compressed-air; 3, knapsack; 4, pump gun (see text); 5, intermittent. Middle row—6, garden hose attachment; 7, household intermittent. Bottom row—8, slide-pump.

Of the many types of hand-powered sprayers available, there is one that will best suit your needs. This article will help you make a good choice.

THERE are probably few hobbies that can be more satisfying to a participant in the rush and crowding of modern living than the tending of a garden. But, in the same breath, one must admit that there are few hobbies which can be so utterly frustrating at times, particularly to those who lack the competitive spirit and perseverance required to gain the upper hand in the everlasting battle with the insects and weeds and fungi, or at least to hold these implacable enemies of man and plant life at bay, if only for one more year.

Some of the gasoline-powered mechanized spraying equipment available to commercial growers for large-scale use in their war on pests is awe-inspiring in size and in the speed and effectiveness of its operation, particularly so when the physical size of the tiny enemy is considered. The home gardener, however, must usually be content to use one of the many types of hand-operated sprayers; most of these have changed very little in design over a period of many years. The consumer will in most cases choose a sprayer on the basis of the amount of spraying he expects to do, and the kind of crop he wishes to protect. Unfortunately, the proper choice of a sprayer is rendered somewhat more complex by the fact that one should also base his choice to some extent on the types of pesticides he wishes to disperse.

In general, sprayers are designed for applying space (mist, fog, or fine droplet) sprays, residual (coarse droplet) sprays, and what are called dual-purpose (medium-fine droplet) sprays. To complicate matters further, many of the pesticides now

commonly available for use in sprayers may be available for use as solutions, emulsions, or wettable-powder suspensions. The prospective purchaser of a sprayer should decide beforehand, if possible, the particular pesticide materials he will be likely to be using in his sprayer, in most instances.

In all of the sprayers examined by Consumers' Research, air was compressed in a tight container or pressure was applied to the liquid to supply the force needed to expel the spraying solution from the sprayer into the tubing and nozzle and thence into the air. None of the sprayers gave something for nothing; the amount of energy expended by the user in working the pump to attain the pressure was, in general, indicative of the kind of spraying pattern that could be obtained. And if you want a very fine spray composed mainly of particles so minute that they almost float in the air, and if you have much spraying to do, be prepared for real exercise. The amount of pressure you generate by your own muscle power will determine not only the degree of atomization of the spray but also the distance a stream can be thrown—the higher the pressure, the finer the spray or the greater the distance.

Kinds of sprayers

In the simplest and least expensive kind of sprayer—the *intermittent household type*—as the compressed air rushes through a small hole in the nozzle it aspirates or sucks through a tube, from

(Continued on page 22)

The Consumers' Observation Post

EXCESSIVELY WATERED HAMS are found too frequently in Illinois. To protect the housewife from having to pay for water at ham prices, the Illinois legislature is expected to take action on a bill to limit the moisture content of smoked hams to that required for processors who operate under Federal inspection. Federal regulations call for precooked hams to be held to the original weight of the fresh, uncured meat, plus 10 percent additional moisture content. In Illinois, more than 500 small plants operating within the state are not bound by this regulation. If Illinois pioneers in protecting the consumer against the growing practice of increasing the weight of smoked hams, up to 30 percent through the addition of moisture in curing, other states such as Iowa and New York may very likely follow its example.

* * *

BEAUTIFY THE HIGHWAY AND PROMOTE SAFETY at the same time. According to Fleet News, the multiflora rosebush (*rosa multiflora japonica*) used as a border barrier on highways can stop a car traveling at 50 miles per hour. It reports that the plant's ability to absorb vast amounts of impact energy, even in cold weather when the bush has no buds or leaves, has been effectively demonstrated.

* * *

ADVERTISEMENTS FOR CERTAIN MOUTHWASHES AND LOZENGES have been criticized by Dr. Alvin C. Hileman of the College of Physicians and Surgeons School of Dentistry, San Francisco. Dr. Hileman points out that claims which suggest that these products are useful in treating tooth and gum diseases tend to give the American public a false sense of security regarding the health of their gums. On the contrary, such products may mask or suppress symptoms of disease, thereby fostering neglect, particularly in older persons. Many patients automatically interpret any cessation of bleeding or pain as cure, and never get to their dentist for examination and diagnosis of the underlying cause.

* * *

REDUCED FAT CONSUMPTION—combined with reasonable substitution of vegetable oils and other unsaturated fats for animal fats in the diet—is recommended by the American Heart Association as a means of preventing hardening of the arteries and lessening the risk of heart attacks and strokes. The A.H.A.'s Central Committee for Medical and Community Program says that its recommendations are based on the best scientific information available at the present time. It urges that medical guidance be sought before people make specific changes in the fat content of their diet, but points out that fat reduction is probably of greatest potential benefit to three groups: the overweight; those who have already had a heart attack or stroke; and men whose personal and family histories suggest that they may be particularly susceptible to hardening of the arteries. Writers and editors dealing with the problem can obtain additional information on the subject from the American Heart Association, 44 E. 23 St., New York 10, New York.

* * *

CONTOUR BELTS are troublesome to clean. The National Institute of Drycleaning reports that contour belts in many cases cannot be satisfactorily cleaned because the outer fabric may ripple; the belt backing get stiff; the outer covering stain; the inner and outer fabrics separate; the belt buckle may disintegrate; and the eyelets may ravel or tear. Consumers perhaps should refrain from sending the belt to the cleaner's, or, when a dress with a contour belt is purchased, get a matching belt of leather or fabric in order to have a substitute if the original belt cannot be cleaned satisfactorily.

ROCKING CHAIRS make excellent therapeutic devices for some ailments. Dr. R. C. Swain of Sunbridge, Ontario, now in London, writing in *The Lancet* (leading British medical journal), recommends the rocking chair as a technique for securing exercise by old and feeble people. He reports that it encourages circulation generally, promotes muscle tone and better respiration, stimulates the movement of joints and helps to keep them supple, and encourages sleep through repetitive and sedative effects of the rocking motion. Dr. Swain also notes that the rocker is inexpensive, non-toxic, and has no side-effects.

* * *

MILDEW on cloth, furniture, rugs, books, shoes, and woodwork is likely to occur in some sections after several days of heavy rain. Removing it is something of a problem. According to a government pamphlet entitled "Preventing and Removing Mildew," spots should be removed from textiles and cloth, as soon as they are discovered, by brushing off the spores out of doors. Sun and air often stop further growth. Fabrics should be dry cleaned or washed. Sometimes mildew stains on textiles can be removed with lemon juice and salt. Leather should be wiped with a cloth dipped in a solution of equal parts of alcohol and water. Floors and woodwork can be wiped up with a solution of water and a small amount of kerosene. Keeping the house dry, with perhaps an electric light in the closet, so located that it cannot possibly come into contact with clothing or paper, helps to avoid mold and mildew.

* * *

WHEN THE WINDSHIELD OF A CAR IS STRUCK BY A PEBBLE, the sharp impact sometimes causes a crack or break. *Fleet News*, published by Lee Associates, reports one manager's recommendation that, as soon as such a break occurs, one should get a small bottle or tube of airplane glue or plastic cement. Dab a bit on the break, which will seal the crack and help delay the need for windshield replacement. In some cases, the repair may prove to be permanent.

* * *

WITH THE GARDENING SEASON AT HAND, advice on how to make cut flowers last longer is useful. According to a little pamphlet on the subject put out by the Vermont Agricultural Extension Service, the best time to cut flowers is late in the afternoon, when the greatest accumulation of food occurs in the tops. Use of a sharp knife, making a slanting cut, or the use of a gadget that holds a razor blade is advisable. Put the stems in water immediately, and be sure the water is not cooler than air temperature. Dipping the lower ends of stems in hot water for a minute before placing them in cool water may improve the lasting qualities of poppies and a few other flowers. For woody stems, such as those of lilac, rhododendron, and chrysanthemum, slice the cut end for several inches to increase the water-absorbing area. Avoid placing flowers in direct sunlight and in drafts. Be sure the containers are thoroughly clean. The Vermont Extension Service reports that flowers last from one half to two days longer in copper containers. If you start with a clean container, it is not necessary to cut the ends of stems daily nor to change the water. Placing a wire frame covered with plastic or wax paper over the bouquet at night to keep it from drying out is also suggested to prolong the life of cut flowers.

* * *

TV TUNING KNOBS THAT COME OFF should be replaced promptly. The exposed metal rods or shafts can in some cases give you a shock, points out the National Safety Council. Children, particularly, should not be permitted to touch any set that has a missing or defective knob.

(The continuation of this section is on page 37)

Consumer Bulletin

THE ORIGINAL CONSUMER INFORMATION MAGAZINE

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Listings usually are arranged in alphabetical order by brand name (not in order of merit) under each quality or performance rating. A numeral 1, 2, or 3 at the end of a listing indicates relative price, 1 being low, 3 high. Where the 1, 2, 3 price ratings are given, brands in the 1, or least expensive group, are listed alphabetically, followed by brands in price group 2, also in alphabetical order, etc. A quality judgment is wholly independent of price.

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Cover photo of laundry equipment courtesy Frigidaire Div., General Motors Corp.



THE 1961 COMPACT CARS

ANYONE shopping for a 1961 American-made automobile has a bewildering array of cars from which to make his selection. There are, indeed, 174 different makes and models of regular passenger cars, and 78 different makes and models of station wagons. Many of the makers, moreover, offer a choice of 6-cylinder or 8-cylinder and alternate engines with special carburetors or different compression ratios affording higher horsepower performance. It would seem that the manufacturers, who suffered a real shock in the sudden discontent of consumers with over-large and over-powered cars, are now not at all sure of what the consumer wants.

It is possible that the automobile manufacturers are now seeking to cover every possibility of sales; they wish to take no chances of losing any prospective buyer by not having the particular type and model, engine type and horsepower in which he may be interested. In 1962, the situation may become more complicated, for it has been reported that both Chevrolet and Ford will bring out an additional line of cars in between the compacts and the full size cars, and with a wheelbase around 115 inches.

Ford is also said to be working on a smaller car than the present compacts, and with a wheelbase of 99½ inches. The new small car, however, may not be available until 1963.

Because of the very large number of different makes and models of 1961 cars, Consumers' Research has prepared its annual automobile report in two sections. A wide range of useful information and data on the compact cars is included in this BULLETIN; the report on regular-sized cars will be included in the June 1961 BULLETIN.

In 1960, about 1,600,000 Americans, or about 30 percent of new car purchasers, apparently considered that a compact car fitted their requirements and pocketbooks much better than the regular size cars, and experts in the industry have predicted that this year 40 to 50 percent of all

American cars sold will be compacts. The reasons for the trend to smaller, more economical cars should be obvious. The consumer's change of mind is very disappointing, obviously, to manufacturers and dealers, who would like to sell the old-style *big* cars, which pay them better profits and bring more, and more expensive, work to their service shops.

In a period in which the cost of living doubled and the incomes of many potential purchasers of cars have, of course, not increased proportionately, wages and nearly all costs in the automobile industry have been increased about five times. Incomes have not increased sufficiently even to keep up with the cost of living, for many millions of persons not represented by powerful labor unions able to drive a hard bargain through their monopoly position in a major industry.

Consequently, the automobile industry with its high-priced, gasoline and oil guzzling automobiles has priced itself out of most of its former foreign market and a sizable part of the domestic market. Many American consumers caught in the relentless squeeze turned to lower-priced, more economical foreign cars, not because they wished to buy foreign-made goods, but just because they could no longer keep up with the never ending year-end boosts of automobile prices. Though to manufacturers and dealers it seemed that a hundred dollars or so a year would not be missed by the customers, the last boost did become just too much to bear, and people by millions started buying cars in the \$1500-\$1800 class, made abroad, a market American manufacturers seemed ready to abandon to more enterprising and less complacent producers disposed to furnish more usable cars, and less of glamour, flash, and glitter.

Manufacturers know now that their bland indifference to the encroachment of small foreign cars was a major tactical blunder. It was not until foreign cars captured about 10 percent of



the American market that the Detroit tycoons realized that their oft-repeated cry that they were providing what the consumer wanted needed drastic revision. They were not only failing to provide what a large segment of their customers wanted, but they were not providing cars this segment could afford to buy (at a higher price each year), maintain, and operate. To combat the public's declining appreciation of size and fashion in new cars, several newspapers and trade magazines offered arguments, fallacious ones, that the savings in owning and driving a small, over a regular size, car were actually not great, and that the compact cars were not as safe on the road as full size cars.

On the matter of costs, note the conclusions of Runzheimer & Co., Inc., of Chicago. This company specializes in the professional analysis and handling of business auto expense for business firms

which have fleets of driver-owned, leased, or company-owned cars. Runzheimer & Co. found that the annual savings in metropolitan Chicago, in owning and driving a *Falcon* 20,000 miles per year, instead of a *Chevrolet V-8*, amounted to \$358; and that more than double this amount or \$721 could be saved per year by driving a *Volkswagen*. (On the investment aspects of small car ownership, see page 22 of March 1961 CONSUMER BULLETIN.) Is it any wonder that the tough, economical, and practical *Volkswagen* is an outstandingly popular car? At fewer miles per year, the savings were proportionately lower, but still very substantial. In order that subscribers can see how these figures were arrived at, the detailed table of costs is reproduced below, by kind permission of Runzheimer & Company, Research Engineers, 332 S. Michigan Ave., Chicago 4.

(Continued on page 10)

COMPARATIVE COSTS FOR FOUR REPRESENTATIVE CARS

Based on Current Model Sedans Operated in Metropolitan Chicago with 50 to 80% "Stop and Go" Driving

COST FACTORS	CHEVROLET V-8	CHEVROLET 8	FALCON	VOLKSWAGEN
1. Standard miles per gallon	13.5	15.0	22.0	32.0
2. Normal gas price	34.0 c	34.0 c	34.0 c	34.0 c
3. Gas and oil—per mile	2.67c	2.42c	1.68c	1.13c
4. Maintenance—per mile	.75c	.75c	.70c	.50c
5. Tires—per mile	.38c	.38c	.32c	.32c
6. Total per mile operating cost	3.80c	3.55c	2.70c	1.95c
7. Comprehensive insurance—annual	\$ 26.00	\$ 26.00	\$ 18.00	\$ 17.00
8. \$100 deductible collision insurance—annual	46.00	46.00	31.00	26.00
9. \$10M PD and \$50-100M PL insurance—annual	167.00	167.00	150.00	150.00
10. License, annual—state and city	49.00	28.00	28.00	24.00
11. Depreciation—annual	589.00	567.00	512.00	309.00
12. Total annual fixed cost	\$877.00	\$834.00	\$739.00	\$526.00
13. Annual savings over Chevrolet V-8—at 10,000 miles—	68.00	248.00	536.00	
14. —at 15,000 miles—	80.00	303.00	628.00	
15. —at 20,000 miles—	93.00	358.00	721.00	

**EXPLANATION OF
COLUMN HEADINGS IN THE TABLE
BELOW**

Manufacturer's rated horsepower at stated revolutions per minute is the figure claimed by the manufacturer. The figures are misleading, for the actual maximum brake horsepower delivered to the rear wheels will be a great deal less (perhaps 50 percent or so).

Piston displacement per mile and miles per gallon. Displacement in thousands of cubic inches per mile gives an approximate guide to the fuel economy of a car; the smaller the displacement on a per-mile-of-travel basis, the more miles per gallon of gasoline a car of given

weight will deliver. Other factors which affect fuel economy are compression ratio, weight, and driving speed. If driving were done at a constant moderate speed and on smooth, level roads, the weight of the car would not have an important effect on miles per gallon performance, but with the constant need to accelerate and decelerate a car, the heavier the car the more gasoline will be used in getting it up to speed, and up hills. The miles per gallon obtained in normal driving should, as a rule, be between seven tenths (0.7) and nine tenths (0.9) of the figures given in the table for a constant speed of 50 miles per hour, depending, of course, upon the weight of the car, passengers, and luggage, type of driving, nature of the terrain, driving speeds, and personal driving habits. (The last named factor is very important in determining gasoline consumption.)

Overload on tires. Whether or not tires are overloaded is determined by comparing the maximum allowable tire

TEST DATA AND SPECIFICATIONS

MAKE AND MODEL	DIMENSIONS AND WEIGHT						MECHANICAL				
	Wheel-base, inches	Over-all length, inches	Width, inches	Min- imum road clear- ance, inches	Shipping weight, pounds, includ- ing auto. trans.	Turning diam- eter, feet	Manufacturer's rated horsepower at stated rpm.	Maximum rated torque lb. ft. at stated rpm.	Com- pression ratio	No. of steering turns	
										Manual steering	Power steering
Buick Special V-8	112.0	188	71.5	4.9	2610	38.0	155 at 4600	220 at 2400	8.8	5.0	4.0
Comet 6	114.0	195	70.5	5.9	2465	40.0	85 ¹ at 4200	134 ² at 2000	8.7	4.6	—
Corvair 6	108.0	180	67.0	6.0	2360	39.5	80 ³ at 4400	128 ⁴ at 2300	8.0	5.0	—
Corvair Monza	108.0	180	67.0	6.0	2425	39.5	80 ³ at 4400	128 ⁴ at 2300	8.0 ¹²	5.0	—
Falcon 6	109.5	181	70.5	5.9	2345	38.5	85 ¹ at 4200	134 ² at 2000	8.7	4.6	—
Lancer 6	106.5	189	72.5	5.4	2620	38.0	101 ⁵ at 4400	155 ⁶ at 2400	8.2	4.5	3.5
Lark 6	108.5	175	71.5	6.1	2735	37.5	112 at 4500	154 at 2000	8.5	4.7	4.4
Lark V-8	108.5	175	71.5	6.1	2960	37.5	180 at 4500	260 at 2800	8.8	4.7	4.4
Oldsmobile F-85	112.0	188	71.5	4.9	2585	37.0	155 at 4800	210 at 3200	8.75	5.0	4.0
Rambler American 6	100.0	173	70.0	5.3	2615	36.0	90 ⁷ at 3800	160 ⁸ at 1600	8.0	3.9	3.1
Rambler Classic 6	108.0	190	72.5	5.6	2980	37.0	127 at 4200	180 at 1600	8.7	4.7	3.6
Rambler Classic V-8	108.0	190	72.5	5.4	3330	37.5	200 at 4900	245 at 2500	8.7	4.7	4.2
Tempest 4	112.0	189	72.0	6.0	2930	41.0	110 at 3800	190 at 2000	8.6	4.25	4.25
Tempest V-8	112.0	189	72.0	6.0	2780	41.0	155 at 4600	220 at 2400	8.8	4.25	4.25
Valiant 6	106.5	184	70.5	5.4	2590	37.8	101 ⁹ at 4400	155 ¹⁰ at 2400	8.2	4.5	3.5

¹ 101 at 4400 optional.

² 156 at 2400 optional.

³ 98 at 4600 optional.

⁴ 132 at 3000 optional.

⁵ 145 at 4000 optional.

⁶ 215 at 2800 optional.

⁷ 125 at 4200 optional.

⁸ 180 at 1600 optional.

⁹ 148 at 5200 optional.

¹⁰ 153 at 4200 optional.

¹¹ 9 to 1 with *Powerglide* transmission.

loads as given by the Tire and Rim Association at the recommended inflation pressures with actual tire loads based upon figures for weight distribution as given in automobile manufacturers' specifications. A 750-pound passenger load is assumed in all instances.

Acceleration time in seconds. Acceleration tests are made by approaching a starting point, in top or "Drive" gear, at each of two constant speeds, one of 20 and one of 40 miles per hour, then immediately pressing the accelerator pedal to the floor. The 20 to 50 and 40 to 60 miles per hour ranges have been selected to give an indication of the ability of the particular car to pass another slower-moving car or truck on the road. Tests are also made starting from rest to 60 miles per hour through the gears or in "Drive" gear. CR's results should be representative of what the average consumer can obtain (on cars not specially tuned and manipulated by experts to give the highest obtainable accelerations).

Reference: Detailed reports on individual compact cars appear in the following issues of CONSUMER BULLETIN.

<i>Buick Special</i>	January '61
<i>Comet</i>	April '61
<i>Corvair</i>	February '61
<i>Falcon</i>	February '61
<i>Lancer</i>	January '61
<i>Lark</i>	April '61
<i>Oldsmobile F-85</i>	February '61
<i>Rambler American</i>	January '61
<i>Rambler Classic 6</i>	April '61
<i>Tempest</i>	April '61
<i>Valiant</i>	February '61

ON 1961 COMPACT CARS

SPECIFICATIONS							Recom-mended fuel	PERFORMANCE ON TEST					MAKE AND MODEL		
Dis- place- ment, cu. in.	Piston disp. in thousands cu. in./mile ÷ 2		Tire size	Percentage overload on tires		Auto- matic trans- mission		Acceleration time in seconds in the range							
	Std. trans.	Auto. trans.		Front	Rear			0 to 60 m.p.h.	20 to 50 m.p.h.	40 to 60 m.p.h.	m.p.h. at 50 m.p.h.				
215	310	285	6.50 x 13	13	9	Opt.	Reg.	14.0	7.5	7.5	25.0	23.0	<i>Buick Special V-8</i>		
144	225	225	6.00 x 13	15	14	Opt.	Reg.	18.5	10.5	11.0	21.5		<i>Comet 6</i>		
145	200	200	6.50 x 13	*	15	Opt.	Reg.	20.0	11.5	12.0	25.5	22.5	<i>Corvair 6</i>		
145	200	200	6.50 x 13	*	18	Opt.	Reg. ¹⁸	*	*	*	*	*	<i>Corvair Monza</i>		
144	200	225	6.00 x 13	9	12	Opt.	Reg.	25.0	15.0	17.5	29.5 ¹¹	28.5 ¹¹	<i>Falcon 6</i>		
170	260	235	6.50 x 13	7	*	Opt.	Reg.	20.5	13.5	10.5	27.0		<i>Lancer 6</i>		
170	250	250	6.00 x 15	16	23	Opt.	Reg.	14.5	10.0	8.5	24.5		<i>Lark 6</i>		
259	305	305	6.50 x 15	14	8	Opt.	Reg.	*	*	*	*	*	<i>Lark V-8</i>		
215	285	300	6.50 x 13	8	11	Opt.	Reg.	14.5	8.0	8.0	21.5		<i>Oldsmobile F-85</i>		
196	260	260	6.00 x 15	7	11	Opt.	Reg.	15.0	11.0	8.5	28.0 ¹¹	25.5 ¹¹	<i>Rambler American 6</i>		
196	290	255	6.50 x 15	7	*	Opt.	Reg.	19.0	10.0	9.5	20.0		<i>Rambler Classic 6</i>		
250	395	300	7.50 x 14	*	*	Opt.	Reg.	*	*	*	*	*	<i>Rambler Classic V-8</i>		
195	275	240	6.00 x 15	17	25	Opt.	Reg.	18.5	9.5	9.5	26.0 ¹¹		<i>Tempest 4</i>		
215	305	285	6.00 x 15	N.A.	N.A.	Opt.	Reg.	*	8.0	*	*	*	<i>Tempest V-8</i>		
170	260	235	6.50 x 13	8	*	Opt.	Reg.	20.5	13.0	9.5	28.0	25.0	<i>Valiant 6</i>		

¹¹ With standard transmission.

¹⁸ Premium with *Powerglide* transmission.

* Less than 5 percent.

N.A.—Not available.

As to safety on the highway, it is significant to note that many insurance companies do not consider compact cars more hazardous than the full size cars; they offer reduced rates for coverage of the compacts.

In 1960, sales of compact cars increased by about a million, while sales of big cars fell off by about 600,000. The sales of *Falcon* and *Comet* together were approximately equal to the drop in sales of the bigger *Fords*, and the sales of *Valiants* were about equal to the drop in sales of *Plymouths*. Chevrolet, on the other hand, sold about 250,000 *Corvairs*, while sales of its bigger cars dropped by only about 70,000, and Chevrolet built almost as many full size *Chevrolets* as all makers of compacts together produced (*Comets*, *Corvairs*, *Falcons*, *Larks*, and *Ramblers*). Volkswagen at the same time increased its sales by 50 percent. It seems evident that the compacts are here to stay and it would not be surprising if they should capture an increasingly large share of the market as time goes on.

Much concern is being voiced by state governments on the loss of tax revenues caused by the use of compact cars. New Jersey expects its loss in gasoline taxes in 1960 to run between 4 and 5

million dollars. New York estimates a loss of 2 million dollars in gasoline taxes, and 1.1 million dollars in registration fees (New York taxes cars on a weight basis). State legislators may attempt to solve this problem by increasing gasoline taxes; the likely effect of any such course of action will be to impel still greater numbers of consumers to buy compact cars.

Accessories

In 1960, buyers of compact cars showed their wish to save money by not buying as many costly accessories as did buyers of full size cars. For example, up to June 30, about 70 percent of the large *Fords* were sold with automatic transmissions, compared to 45 percent of the *Falcons*. It is CR's opinion that in buying a compact with a relatively low horsepower engine (below about 110), the consumer does much better to buy a car with manual shift. It should be noted that two of the 1961 compacts, *Buick Special* and *Oldsmobile F-85*, with automatic transmissions, cannot be started by pushing. Unless in exceptional circumstances, power steering and power brakes are not needed on any of the present compacts.

CR's recommendations of 1961 compact cars in three price groups

Prices given are the posted or factory-suggested prices for the basic cars (4-door sedans, unless otherwise noted), and include federal tax, distribution, and handling charges. They do not include freight, which can range from \$10 to \$120,

depending on the weight of the car and distance from factory to destination, nor do they include state and local taxes, or radios, heaters, or other accessories except automatic transmissions when indicated.

PRICE GROUP 1 (\$1890 TO \$2150)

»CR's selections of preferred compact cars in price group 1.

With manual transmission

First choice: Rambler American

Second choice: Falcon or Comet

Third choice: Lark 6

With automatic transmission

First choice: Rambler American

Second choice: Falcon

Third choice: Corvair

This group consists of 18 cars, 4 of which have automatic transmissions. The manual shift, as noted, is usually to be preferred, in buying any car, foreign or domestic, with an engine of low horsepower. Only one car in this group, one of the *Larks*, has a V-8 engine.

Cars with manual transmissions	Price
Rambler American DeLuxe.....	\$1894
Corvair.....	1974
Falcon.....	1974
Rambler American Super.....	1979
Lark DeLuxe 6.....	2005
Valiant V-100.....	2014
Corvair DeLuxe.....	2039
Falcon DeLuxe Trim.....	2052
Comet.....	2053
Lancer 170.....	2069

Rambler Classic 6 DeLuxe.....	2098
Rambler American Custom.....	2109
Valiant V-200.....	2110
Lark DeLuxe 8.....	2140

Cars with automatic transmissions

Rambler American DeLuxe.....	2059
Corvair.....	2131
Falcon.....	2137
Rambler American Super.....	2144

PRICE GROUP 2 (\$2150 TO \$2400)

»CR's selections of preferred compact cars in price group 2.

With manual transmission

First choice: Rambler Classic (6 or V-8)

Second choice: Tempest V-8

Third choice: Lark V-8

With automatic transmission

First choice: Rambler Classic 6

Second choice: Tempest 4

Third choice: Lark V-8

This group consists of 23 cars, 13 of which have automatic transmissions, and seven of the 20 have V-8 engines.

Cars with manual transmissions

Lancer 770.....	\$2154
Tempest 4.....	2167
Corvair Monza.....	2201
Rambler Classic V-8 DeLuxe.....	2227
Rambler Classic 6 Super.....	2268
Lark Regal V-8.....	2270
Tempest V-8.....	2383
Buick Special V-8.....	2384
Oldsmobile F-85.....	2384
Rambler Classic V-8 Super.....	2397

Cars with automatic transmissions

Lark DeLuxe 6.....	2170
Valiant V-100.....	2186
Corvair DeLuxe.....	2196
Falcon (DeLuxe Trim).....	2215
Comet.....	2225
Lancer 170.....	2241
Rambler American Custom.....	2274
Valiant V-200.....	2282
Rambler Classic 6 DeLuxe.....	2298
Lancer 770.....	2326
Lark DeLuxe 8.....	2340
Tempest 4.....	2340
Corvair Monza.....	2358

PRICE GROUP 3 (\$2400 TO \$2735)

»CR's selections of preferred compact cars in price group 3.

With manual transmission

First choice: Rambler Classic (6 or V-8)

Second choice: Buick Special DeLuxe

Third choice: Oldsmobile F-85

With automatic transmission

First choice: Rambler Classic V-8

Second choice: Tempest V-8

Third choice: Lark Regal V-8

Cars with manual transmissions

Rambler Classic 6 Custom.....	\$2413
Rambler Classic V-8 Custom.....	2512
Buick Special V-8 DeLuxe.....	2519
Oldsmobile F-85 DeLuxe V-8.....	2519

Cars with automatic transmissions

Rambler Classic V-8 DeLuxe.....	2447
Rambler Classic 6 Super.....	2468
Lark Regal V-8.....	2490
Tempest V-8.....	2556
Buick Special V-8.....	2573
Oldsmobile F-85 V-8.....	2573
Rambler Classic Custom.....	2613
Rambler Classic V-8 Super.....	2617
Buick Special DeLuxe V-8.....	2708
Oldsmobile F-85 DeLuxe V-8.....	2708
Rambler Classic V-8 Custom.....	2732

Change of address

If you change your address, please notify CONSUMER BULLETIN at least six weeks before the change is to go into effect, if at all possible.

Be sure to give both the old and new addresses. It is best to type or "print" your name and address, to insure maximum legibility. The address portion clipped from the wrapper of your latest copy of CONSUMER BULLETIN will be helpful. If your new city has postal zone numbers, be sure to include the zone number in your new address. It will help in getting your BULLETIN to you more promptly.

Children's shoes

IT is important that parents exercise great care in selecting shoes for children, for the undeveloped and growing bones in young feet are easily twisted and bent out of shape. Since 99% of feet are perfect at birth, most authorities believe that the main source of trouble with feet is shoes.

It is helpful to know that some manufacturers do make children's shoes of correct design. In fact, children's shoes are usually well designed up to the sizes at which they are modeled after adult shoes. In the larger sizes, like the adult shoes they copy, they have faults of design that make them a danger to foot health.

To protect your child's feet, select a shoe with a straight inner line, low broad heel, and roomy toe (see illustration). Children should preferably wear only laced shoes, which afford support and also permit some adjustment to the foot. Do not buy a child shoes that are too small, and do not buy him shoes that are definitely too large with the idea that he will "grow into them." No shoe is ever a good buy unless it is a good fit.

Since proper fit is essential to foot health, it is as important to discard shoes when they have become too small as it is to buy them the right size in the first place. A shoe is outgrown when the distance from the tip of the longest toe to the tip of the shoe is $\frac{1}{4}$ inch or less. Check at regular intervals to see that shoes have not been outgrown. How quickly children's feet may grow is seen from the following estimates of how fast the needed shoe size changes.

- 2 to 6 years, every 4 to 8 weeks
- 6 to 12 years, every 8 to 12 weeks
- 12 to 15 years, every 4 to 5 months
- Over 15 years, every 6 months until feet are fully developed

As can be seen, a child, in his early years, may well grow out of his shoes before he wears them

Children's shoes are usually well designed, up to the sizes at which they begin to be modeled after shoes for adults. These shoes are grouped generally, from left to right, in order as their shape and other characteristics were judged good, fair to good, and relatively poor from the orthopedic standpoint.



Beginning at the left: Buster Brown, Dr. Posner, Fleet-Air, Little Yankee, Poll Parrot, Stride Rite.

Flying Aces, Official Boy Scout.

How to get a good fit in a child's shoe A guide for parents

Take the child with you; take your time.

Have the salesman **measure** both feet while the child is standing as well as sitting. The larger foot is the one to be fitted.

Check the fit and length of the shoe on the foot. (See illustration on page 13.)

Ask your child to stand in the shoe and walk in it. "Breaking in" cannot make up for a poor fit.

Do not permit the use of an X-ray fluoroscope to check fit.

out. It is for this reason that some manufacturers claim that the six-month guarantee provided by some manufacturers of boys' shoes is a disservice, for it is impossible to be sure that shoes will fit properly when worn longer than two or three months. An inexpensive shoe that is shaped properly and fits properly may well be the best buy for a child. (But not, our orthopedic consultant cautions, if the materials are so poor that it loses its shape quickly and does not continue to give proper support to the foot.)

Selecting a good shoe

Consumers' Research asked one of its orthopedic consultants to look over the 16 pairs of children's shoes purchased for this study. His observations and comments, based on years of experience in orthopedic practice, will be helpful to all parents in buying shoes not only for their children, but also for themselves.

Children's shoes, unless strongly made, are likely to "run over" easily. The sole, shank, heel counter, and toe box all should be strong, but not stiff. (The shank of a shoe is concealed in the shoe; it comes under and supports the arch of the foot.) The shank should be flexible enough to exercise the muscles in walking. Preferably it should be of spring steel, and thick enough and wide enough to give good support. The shank should be long enough to extend from a point close to the heel to another point almost at the ball of the foot.

A shoe clerk would likely take a dim view of

anybody's testing a shoe by application of hand pressure in the store. Nevertheless, it was a fact that some of the shoes examined were so weak that they twisted in the hand and got out of shape just from handling during the expert examination. Some of the shanks cracked when the shoes were flexed.

The counter of the shoe (the back part of the upper) supports the upper of the shoe and is better resilient rather than stiff or soft. Plastic, rubber, or rubber composition soles are not strong and therefore especially need a strong shank and heel counter of adequate size. A short counter will make a shoe weak.

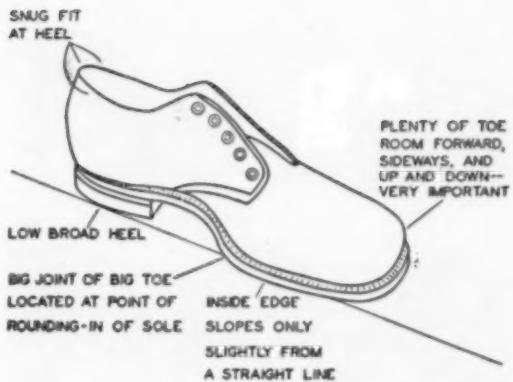
A rubber heel is preferable to a leather heel, and a heel beveled at the forward end has some advantages, since younger children especially have a tendency to catch heels or scuff them off. The pad inside the shoe at the heel should protect the foot from the nails beneath.

The physician felt that a three-eyelet closure was not enough to provide proper support for a child's shoes. Four might be all right if double eyelets (metal showing inside and out) were used.

Wrinkles in the lining of the shoe should be guarded against. Sharp wrinkles may cause blisters or corns. The lining of the tongue should preferably be of leather, since one of fabric may tend to wear out or become detached. Shoes with "buffed" leather linings stay on the feet better, but the buffed leather lining is more likely to get wet and soggy from perspiration than is a smooth leather.

It is difficult for anybody to tell by simple examination what soles are made of nowadays. They are painted, and possibly treated with a plastic coating, so that it is sometimes hard to tell whether a given sole is plastic or rubber or leather. Rubber and composition soles have the advantages of being waterproof, of wearing better, and gripping better on smooth surfaces than do leather soles; with these three points their advantages end.

A final word of advice. Do not buy for your child an "orthopedic" shoe, or a shoe with orthopedic features, except on the specific advice and prescription of a physician. Your pediatrician should examine your child's feet when he gives him his physical examinations. If any condition



requiring orthopedic shoes is evident, the physician will, if he deems it necessary, refer you to a competent medical foot specialist who will know what is needed.

Laboratory tests

The children's shoes in this test were not only examined by a well-qualified orthopedist for shape and construction, but they were dissected in the laboratory and various parts given a lengthy series of measurements and compared to determine their quality and serviceability. The various leathers and composition materials were identified by inspection. Thickness measurements were used as an index of the strength of the upper leather. The leather of the toe cap is often referred to as "shark," if it has the pebbled hard-surfaced appearance associated with that leather, even when it is not actually made of sharkskin.

Tests for the durability of the soles and heels were not made (although an estimate of the probable wear life of the heels was made) since long life of soles and heels is not considered important in a shoe that is good only for several months for other reasons. Composition soles are known from experience to outlast the useful life of a child's shoe.

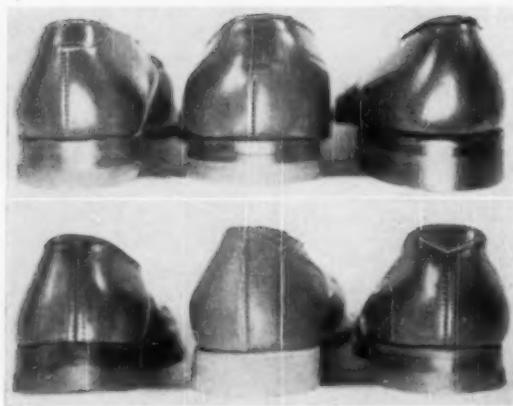
One disadvantage of composition soles not associated with the durability of shoes but with the durability of little boys' and girls' mothers are the marks that are left on the floor by some soles. Anyone who has had to clean up the black or brown marks left by the busy feet of three young-



Classmate, Edwards, Kali-sten-iks, Pro * tek * tiv.



Educator, Kinney's, Storybook, Thom McAn.



Illustrated here are the different types of construction used in the heel section of children's shoes. From left to right: straight seam with tab top, partial seam (a dart), and seamless (all desirable). Bottom row: straight seam, straight seam with stitching reinforcement at top, and straight seam with V wedge at top (judged less desirable than the first three).

sters (or even one) can think of one big argument in favor of leather soles. Ten of the 12 brands with composition soles tested marked a light-colored vinyl floor tile noticeably with their soles, and the marks of two still showed after cleaning. Composition soles, nevertheless, are the kind most widely used for children's shoes. Rubber composition heels also may mark floors, unfortunately, but orthopedic experts prefer them to leather. The marks left by the heels of the shoes tested, except for one, were readily removed from the vinyl flooring by the cleaner.

In general, a fully lined, fully reinforced welt shoe, with leather counter and insole, and no rear seam, was preferred as being most likely to hold its shape during the life of the shoe. An unlined shoe was considered not desirable. Experts agree that a lining should cover the inside of the shoe, particularly around the toes. It will help to absorb moisture and prevent friction of the feet against rough leather surfaces or seams.

A welt shoe has an insole of leather cut to form an attachment ridge for the welted seam. The cemented type has this ridge made of composition and cemented to the insole with tape or other fabric. Shoes made by the welt process are recognized as strong, sturdy, and long wearing; they can be repaired easily. Welt construction is judged better than stitchdown construction, another common way of making children's shoes.

All shoes tested were made of brown, tan, or "oxblood" colored leather in blucher style. Construction was of the welt type, counters were made of non-waterproof composition materials, and

soles and heels were of rubber composition material, except as noted.

A. Recommended

Buster Brown (Buster Brown Div., Brown Shoe Co., St. Louis) \$8.99. Oxford with 6 blind eyelets (no metal reinforcement visible), moccasin toe with extra "shark" toe cap, straight rear seam with stitching reinforcement at top.

Upper leather of satisfactory thickness. Fully lined. Reinforced at counter and quarter areas. Leather insole, paper-backed jute insole-filler. Wood shank.

Over-all orthopedic rating, good. 3

Fleet-Air (Eby Shoe Corp., Ephrata, Pa.) \$9.95. Oxford with "shark" toe cap, 5 blind eyelets (no metal reinforcement visible), straight rear seam with tab top.

Relatively thin upper leather. Fully lined. Fully reinforced with napped brown cloth cemented to leather. Leather insole of cemented type with cork insole-filler. Wood shank. Leather sole.

Over-all orthopedic rating, good. 3

Little Yankee (Sam Smith Shoe Corp., Newmarket, N.H.) \$8.95. Oxford with 5 eyelets, moccasin toe with extra "shark" toe cap, straight rear seam with tab top.

Relatively thick upper leather. Fully lined. Little reinforcement. Leather insole of cemented type with cork insole-filler. Steel shank.

Over-all orthopedic rating, good. 3

Official Boy Scout (International Shoe Co., St. Louis) \$8.95. "Service" oxford with 5 eyelets, moccasin toe, straight rear seam with a V wedge at top.

Relatively thick upper leather. Fully lined. Reinforced with napped cloth at toe and vamp areas. Leather insole with cork insole-filler. Wood shank.

Over-all orthopedic rating, fair to good. Shoe appears to be durably and strongly made. Shape of toe was only fair. The counter comes forward fairly well, better than on some of the other shoes tested. 3

B. Intermediate

Poll Parrot (Roberts, Johnson & Rand, Div. International Shoe Co., St. Louis) \$7.95. Oxford with 4 eyelets, straight rear seam.

A stitchdown shoe. Relatively thick upper leather. Fully lined. Reinforced at toe and vamp areas. Pressed fiber insole, no insole-filler. Wood shank.

Over-all orthopedic rating, good. 2

Dr. Posner (Dr. Posner Shoe Co., Inc., New York City) \$8.95. Oxford with 6 blind eyelets, moccasin toe with toe and vamp of "shark" leather, straight rear seam with tab top.

Relatively thin upper leather. Fully lined. Little reinforcement. Leather insole of cemented type on canvas backing with cork insole-filler. Steel shank.

Over-all orthopedic rating, good, although the shank was slightly short for a composition sole and the tongue just barely covered the eyelets. 3

Edwards (J. Edwards & Co., Philadelphia) \$8.95. Oxford with 5 blind eyelets, plain toe, straight rear seam.

Substantial upper leather. Fully lined. Little rein-

forcement. Paper-like insole of cemented type, with canvas backing, with cork insole-filler. Steel shank.

Over-all orthopedic rating, fair. Lack of seam at front is a good feature. **3**

Flying Aces by Dr. Posner (Dr. Posner Shoe Co., Inc.) \$8.95. Oxford with 5 blind eyelets, plain toe, straight rear seam with tab top.

Relatively thin upper leather. Fully lined. Reinforced at toe and vamp areas. Heavy leather insole of cemented type with full canvas backing with cork insole-filler. Steel shank.

Over-all orthopedic rating, fair to good (toe shape judged only fair; the shank was somewhat short). **3**

Kali-sten-iks (The Gilbert Shoe Co., Thiensville, Wis.) \$9.95. Oxford with 4 eyelets, moccasin toe with inverted seam, no rear seam.

Relatively thin upper leather. Fully lined. Reinforced fully with napped fabric. Leather insole with cork insole-filler. Leather counter. No shank. Leather sole.

Over-all orthopedic rating, fair. Without a shank, the sole is weak and the inverted moccasin seam along the forepart of the shoe could be bad from the standpoint of pressure on the foot. **3**

Pro . tek . tiv (Curtis Stephens, Embry Co., Inc., Philadelphia) \$9.99. Oxford with 5 blind eyelets, moccasin toe with extra "shark" toe cap, straight rear seam.

Leather of medium thickness. Fully lined. Little reinforcement. Leather insole of cemented type with cork insole-filler. Steel shank. Leather heel with top lift of composition material. Leather sole.

Over-all orthopedic rating, fair. **3**

Stride Rite (Green Shoe Mfg. Co., Boston) \$8.98. Oxford with 5 eyelets, "shark" toe cap, straight rear seam with V wedge at top.

Leather of medium thickness. Fully lined. Reinforced at toe cap and at several other portions of the shoe. Leather insole of cemented type with cork insole-filler. Steel shank. Leather sole. **3**

Over-all orthopedic rating, good. **3**

C. Not Recommended

Educator (Johnson-Baillie Shoe Co., Div. G. R. Kinney Corp., Millersburg, Pa.) \$4.99. Oxford with 5 eyelets, moccasin toe, straight rear seam with V wedge at top.

Shoe was of a non-standard construction, with sole



All the shoes tested were blucher style (the forward extending quarters are left loose at the lower edge, not stitched down as in some other styles). This blucher style is one that orthopedists consider desirable.

cemented to upper and sewn through to insole on inside of shoe. A second seam runs around the sole edge to simulate welt construction. This type of shoe cannot be half soled. Substantial upper leather. Unlined except for counter. Little reinforcement. Paper-like insole with cotton felt insole-filler. Wood shank.

Over-all orthopedic rating, poor. In the pair tested, the seam at toe could be felt inside the shoe, and toe box had loose edge. **1**

Kinney's Sturdy Pal (G. R. Kinney Corp., Carlisle, Pa.) \$3.99. Oxford with 4 eyelets, stitch-decorated toe, straight rear seam.

Stitchdown construction. Medium to thin upper leather. Fully lined with fabric and paper-type imitation leather. *Bontex* insole, fiber midsole. Wood shank.

In the usual stitchdown construction, linings are turned inward between the insole and midsole; in this shoe the linings and the composition counter are turned outward and sewn to the sole along with the upper. This exposes the edges of these fibrous materials to the action of water, and it is likely that the upper would lose shape rather more quickly than normally after repeated wetting. Soles marked vinyl flooring noticeably, and marks were not easily removed.

Over-all orthopedic rating, poor. **1**

Thom McAn (Melville Shoe Corp., New York City) \$4.99. Oxford with 3 blind eyelets, moccasin toe with inverted seam, straight rear seam.

Upper leather of average thickness. Fully lined. Reinforced with leather and imitation leather, and napped fabric. *Arista* composition insole of cemented type with cork insole-filler. Wood shank. Soles and heels marked vinyl flooring noticeably, and marks were not easily removed.

Over-all orthopedic rating, poor. This shoe had almost all the bad characteristics found in any of the shoes tested. The toe was too pointed, the toe height was low, the lining was wrinkled, the stitching of the tongue was poor. The short wooden shank cracked when hand pressure was put on it, and the inverted seam at the front of the shoe would almost surely bring pressure to bear on the foot. **1**

Classmate (Ideal Shoe Mfg. Co., Milwaukee) \$7.95. Oxford with 5 blind eyelets, moccasin toe with inverted seam, partial rear seam.

Lower portion of upper made of thin leather, top portion thick "Scotch grain" leather. Fully lined. No reinforcements except paper tape at some seams. Leather insole of cemented type with cork insole-filler. Steel shank. Soles marked vinyl flooring only slightly, and marks were easily removed.

Over-all orthopedic rating, fair. The inverted seam along the forepart of the shoe could be undesirable from the standpoint of pressure on the foot and was considered unsuitable for children's feet. **2**

Storybook (General Shoe Corp., Nashville, Tenn.) \$6.95. Oxford with 3 blind eyelets, wing tip, straight rear seam.

Stitchdown construction. Relatively thick upper leather. Fully lined. No reinforcements. *Texon* pressed fiber insole, no insole-filler. Wood shank. Little marking from soles and heels (one of three best in this respect).

Over-all orthopedic rating, poor. **2**

Automatic washing machines

BECAUSE there are now many models to choose from, the buying of home laundry equipment nowadays can present real difficulties. The problems are particularly complicated in the buying of a washing machine. It is a fact, however, that the lower-priced machines wash as well as the higher-priced ones.

In the fully-automatic line, with list prices ranging from about \$175 to over \$400, each make has four or more models, some with only push buttons, others with push buttons and dials, and others with dials only. There is no doubt that push buttons simplify the operation of the machine, but a dial permits greater flexibility since the operator can repeat, eliminate, or advance any part of the cycle as desired. Some models of automatic washers offer two-speed agitation and spin, various lengths of wash, rinse, and spin periods, a variety of water temperatures, as well as bleach dispensers that feed bleach into the water after a time interval, dispensers for fabric softener liquid, and lint filters.

The prospective buyer must decide between a top-loading (agitator) and a front-loading (tumbler) machine. Each has definite advantages.

One must also consider the following principal elements of performance and efficiency of a washer.

- 1) How well does it wash?
- 2) How thoroughly does it rinse?
- 3) How much water does it use in the washing and rinsing process?
- 4) How well does it extract the water that remains in the clothes after the rinsing action?
- 5) How easy is it to use?
- 6) Is it electrically safe?
- 7) Is it mechanically safe?
- 8) Is it noisy?
- 9) Is reliable local service available at moderate charges?

Select a machine that meets your requirements

Top loading vs. front loading. For laundering of white or colored loads, including sheets, and

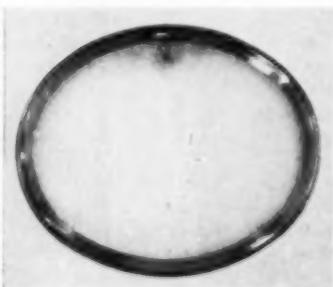
towels, the front-loading machines wash satisfactorily, but the top-loading machines do a better job. With a front-loading machine one must use a low- or controlled-sudsing detergent such as *Ad*, *All*, or *Dash*. Unfortunately these detergents do not cleanse clothing as effectively as the high-sudsing detergents, such as soap powders, *Fab*, *Surf*, *Tide*, all of which, unless measured with great care, produce too much suds, which interfere sufficiently with the tumbling motion of the clothes to reduce the washing action.

Front-loading machines do a better job than top-loading machines in washing clothes that have been soiled heavily with sand or mud. Thus front-loading machines are specially serviceable in farm homes. Among the top-loading machines *General Electric*, *Maytag*, *Philco-Bendix*, *RCA Whirlpool*, and *Sears Kenmore* do the best job in removing sand and mud. Front-loading machines simplify the washing of large, heavy, or bulky items including blankets, quilts, pillows, spreads, furniture slip covers, throw rugs, and curtains.

The quality of rinsing for all machines could be improved, since none of the machines tested rinsed out the detergent completely from the clothes, although some machines rinsed more effectively than others. This is of particular importance where chlorine bleach is used, because all traces of this type of bleach should be removed. Those machines that did the best job of rinsing were *Easy*, *Hamilton*, and *Maytag*.

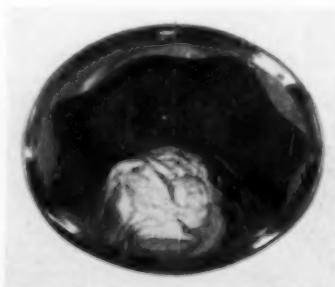
Automatic vs. semiautomatic. In the lowest priced models, with price tags around \$150, one can buy a semiautomatic washer. A washer of this type needs attention to set the controls after the machine has been started, and does not provide the variety of washing conditions offered by the higher-priced models. The difference in price between a semiautomatic machine and one with simple but fully-automatic controls is about \$20.

In the higher-priced models, in about the \$250



At the left: Foaming in this front-opening washer with use of a high-sudsing detergent such as *Tide*.

At the right: No foaming in the same machine with a low-sudsing detergent like *Dash*.



to \$300 range, washers are not only fully automatic, but they provide a variety of washing conditions. For example, they offer two (fast and slow) agitation and spin speeds, choice of hot, warm, and cold water for washing, warm or cold water for rinsing, a second or possibly a third cycle (usually a short or wash-and-wear cycle). These machines are usually equipped also with lint filters, and dispensers for bleach and fabric softeners.

Dispensers for bleach and fabric softener

Most makes of washing machines have at least one model that is equipped with one form or another of these dispensers. The dispenser for fabric softener makes it convenient to add a softener without the housewife's having to return to the washer to add the liquid to the final rinse, or to put the clothes through an additional rinse at the end of the cycle. Fabric softeners give fabrics a soft feel, increase fluffiness, and reduce the effects of static electricity. A bleach dispenser provides a convenient way to dilute the bleach automatically as it is added to the wash water and thereby avoids the risk of damage to clothes which often occurs when bleach is improperly poured directly on the fabrics.

Most bleach dispensers are now designed to delay for several minutes the introduction of the bleach into the wash solution, i.e., until after the detergent has been completely dissolved and has had time to become mixed with the clothes. When chlorine bleach is added too soon, it inactivates the fluorescent dye in the detergent and so interferes with its intended whitening effect.

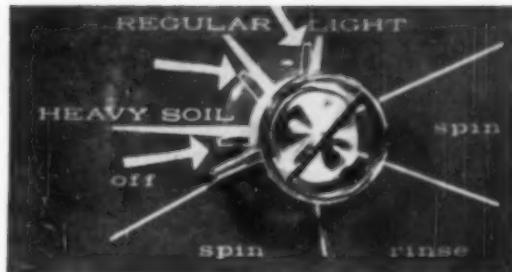
Filters to catch lint

The presence of lint in the wash and rinse waters is often a major problem. If lint is diffused in the wash or rinse water, it will be deposited on the clothing and spoil its appearance, particularly with colored fabrics. Lint filters can help but do not solve this problem completely, for while some remove a considerable proportion of the lint, they are not fully effective. Even with the best of filters, dark pieces washed with white articles will show occasional bits of lint or fuzz.

Some filters do not work well unless the level of the water is at or near the top of the tub, and some are not at all effective. The type of filter having its lint screen positioned on the agitator shaft is likely to present problems in loading and unloading the tub unless the screen is removed, since it obstructs access to the tub. This can be a bother.

Water-level controls

There are two types of controls used which regulate the level of the water for washing; one, a

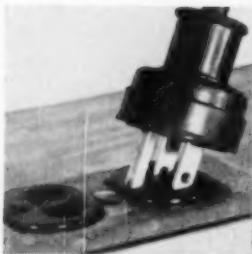


With the Hotpoint washing machine, under certain conditions, it is possible to introduce up to 42 gallons of water before the machine reaches the end of the washing period. The above arrows indicate the three separate starting positions that act to fill the tub with water. Each position provides for filling the tub with about 14 gallons. If the machine is started with the dial set at "Heavy Soil" and the machine is run through the complete cycle, there is no problem. If, however, the machine is stopped at or about the "Regular" setting, it will add more water when the machine is started again. And, if this is repeated at the "Light" position, the machine will fill a third time. The chances that this triple-filling action will occur are no doubt slight, but it can happen, and if it should, there would be waste of much water and detergent. The controls should be so designed that water will not flow into the tub when it is already full.

time-controlled fill, lets the water flow for a given period of time, generally about four minutes for a full load; the other is a pressure-controlled fill, which shuts the water off when the water in the tub reaches a certain level. With the latter, there is no problem with either extremely low or extremely high water supply pressures; with low pressure, it simply takes longer to fill the tub to the proper level before the machine begins to agitate. With a time-controlled fill, only as much water as happens to flow in a given time will enter the tub and, if the pressure in the water supply piping is low, the tub may not have been filled to a sufficiently high level when the agitator starts the washing action. With deficient filling, the washing action will be impaired, and clothing could be torn or ripped. Most machines with time-controlled fill have provision for extending the fill time where supply pressure is low. Where water pressure fluctuates over a wide range, this type of control may not be satisfactory.

How much does it cost to launder at home?

Few people take the time to figure out how much it costs them to do various regular household operations. The results of such computations are often quite different from expectations. Those who have computed home laundering costs will have found that the amount is by no means insignificant. Actual costs vary from home to home, ranging from about 15 to 40 cents for an 8- or 9-pound load. These figures cover the typical average costs of owning, operating, and maintain-



This is the type of power-cord plug that all washing machines are now equipped with. Note the three prongs instead of the two used on lamps and small appliances. A wall outlet of the type that accommodates this plug must be installed by an electrician, if not already present.

ing the washer, and the consumption of detergents; the figures do not include bleach and other washing materials, any large outlays for repairs, which if major or frequent would increase the per-load cost substantially.

The three most costly items are the washing machine, the detergent, and the heating of the water. How much each will cost depends on many things, such as the original price paid for the machine, its useful life and the cost of required repairs, the amount of detergent used for washing a load of clothes, and particularly the cost of the fuel used for heating the water.

The following table gives estimated ranges of the costs per load (based on an 8- to 9-pound load) in an automatic washer:

Depreciation and maintenance.....	6c to 15c
Detergent.....	6c to 10c
Hot and cold water.....	2c to 15c
Electricity for operating washer.....	3c to 1c
Total cost per load.....	14½c to 41c

Special cycles

With the increase in the use of "wash-and-wear" and "wash-and-use" fabrics, manufacturers of a number of machines have adopted special washing and rinsing cycles for washing such items. Some machines have provision for cooling the wash water before draining and spinning occur, thus minimizing the setting of wrinkles in garments and linens. Machines which provide this cooling-down action are *Frigidaire*, *Hamilton*, *Hotpoint*, *Kelvinator*, *Kenmore*, *Maytag*, *Norge*, and *RCA Whirlpool*. The *Westinghouse* and *Signature Imperial* can be set to omit the final spin. The *Hamilton*'s wash-and-wear cycle provides two rinses instead of the customary one.

Safety

In the past, some automatic washing machines involved serious hazards to their users, but over the years some manufacturers have improved their machines in ways to decrease these dangers. One important change in the direction of greater safety was reducing the time the tub took to slow

down to a stop after spinning. Shortening this time does not eliminate the hazard but does decrease it. Free spinning of the tub for longer than about 10 seconds after the machine shuts off is too long for the impatient or thoughtless person who reaches a hand into the tub to take out an item from the tub while it is still in rapid motion. The hazard, a very serious one, still exists in a number of machines which do not stop spinning when the lid is opened before the end of the cycle.

Another change in the direction of safety to consumers is the common use of the three-prong plug, like that shown in the accompanying photograph, on the power cord of each make of washing machine. The new owner of a washing machine (or any other electric appliance) equipped with a three-prong plug should use the plug as intended.

Two makes of washing machines, *Kenmore* and *RCA Whirlpool*, are supplied with adapters which make it unnecessary to use the three-slot wall outlet. These adapters are not recommended.

Servicing

Most machines as complex as automatic washers and washer-dryer combinations cannot safely be bought without considering the quality and cost of the service that will back them up. One's machine may be useless for weeks or months at a time if prompt and reliable service that one can afford is not available. In considering service charges, bear in mind that the owner of the machine must pay for the distance the serviceman must travel to get to the home, plus labor and the necessary parts. Thus if a homemaker purchases a machine from a dealer a considerable distance from her home, she may run into heavy, unexpected extra expenses when repairs become necessary. Before selecting any brand of any major appliance, check on the availability and quality of the service offered locally.

Within each of the following rating groups, brands appear in alphabetical order. Prices given in the listings are factory-suggested list prices which do not reflect the low prices at which some washing machines can be bought at discount outlets. (*Kenmore* and *Signature Imperial* prices given were taken from Sears Roebuck and Montgomery Ward catalogs, respectively.) The prices do not include suds-saver systems.

A. Recommended

General Electric, Model 1WA1050V1W (General Electric Co., Appliance Park, Louisville, Ky.) \$365. Effectiveness in washing, very good. Spin cycle stops when lid is opened. Lint filter was effective at all water levels. Tub continued to spin even when load was greatly unbalanced, causing tub to hit cabinet.

Hamilton, Model 4T12 (Hamilton Mfg. Co., Two Rivers, Wis.) \$370. Effectiveness in washing, very good. Spin cycle stops when lid is opened. Lint filter was not effective with partial fill nor very effective even with tub filled. A switch shuts off machine when load is unbalanced. The washer rinses out detergent relatively well.

Kenmore 70 (Sears-Roebuck's Cat. No. W26-1470N) \$240, plus freight. Effectiveness in washing, very good. Spin cycle stops when lid is opened. Lint filter was very effective at all water levels, but difficult to clean, and required water to clean, a possible problem where separate water faucet not near washer. A switch shuts off machine when load is unbalanced and a buzzer sounds off.

Maytag, Model 142B (The Maytag Co., Newton, Iowa) \$380. Effectiveness in washing, very good. Spin cycle stops when lid is opened. Lint filter was partially effective, but did not work with tub partly filled. A switch shuts off machine when load is unbalanced. Rinses out detergent relatively well.

Maytag, Model 160 (The Maytag Co.) \$410. Effectiveness in washing, good. Spin cycle stops when lid is opened. Lint filter was partially effective, but did not work with tub partly filled. A switch shuts off machine when load is unbalanced. Rinses out detergent relatively well.

Norge, Model AWG870 (Norge Sales Corp., Merchandise Mart, Chicago) \$300. Effectiveness in washing, very good. Spin cycle stops when lid is opened. Lint filter was not effective when the tub was partly filled nor very effective even with tub filled. A switch shuts off machine when load is unbalanced.

RCA Whirlpool, HA-90, Model W6104700 (Whirlpool Corp., St. Joseph, Mich.) \$340. Effectiveness in washing, very good. Spin cycle stops when lid is opened. Lint filter was very effective at all water levels, but was difficult to clean, and required water to clean, a possible problem where separate water faucet not near washer. Tub continued to spin at reduced speed when load was unbalanced.

Signature Imperial (Montgomery Ward's Cat. No. 85-6831R) \$285, plus freight. Effectiveness in washing with low-sudsing detergent, below that of agitator (top-loading) machines with high-sudsing detergent, but considered satisfactory. It is easier to wash such items as blankets, quilts, pillows, throw rugs, furniture slip covers in this type of machine (see text). No problems with off-balance loads.

Westinghouse, Model LAB305W1 (Westinghouse Electric Corp., Mansfield, Ohio) \$375. Effectiveness in washing with low-sudsing detergent, below that of agitator (top-loading) machines with high-sudsing detergent, but considered satisfactory. As already noted, it is easier to wash such items as blankets, furniture slip covers, quilts, pillows, throw rugs, etc., in this type of machine. No problems with off-balance loads.

B. Intermediate

Blackstone, Model WAC-75 (Blackstone Corp., Jamestown, N.Y.) \$340. Effectiveness in washing, very good.

This machine lacks a safety feature in that it has no provision for stopping the spin when lid is opened. Lint filter was not effective when the tub was partly filled. With unbalanced loads, tub continues to spin at speeds lowered sufficiently to reduce amount of water removed from clothes, but tub did not hit sides of cabinet nor did the machine "walk."

Easy Regent, Model ACK (Easy Laundry Appliance Div., The Murray Corp. of America, Syracuse) \$330. Effectiveness in washing, good. Has no provision for stopping spin when lid is opened. Lint filter was effective at all levels of water. Has a "Soak" cycle. Rinses out detergent relatively well.

Kelvinator, Model KW30M (Kelvinator Div., American Motors Corp., Detroit) \$270. Effectiveness in washing, very good. Has no provision for stopping spin when lid is opened. Tub continued to spin about $\frac{1}{2}$ min. after end of cycle. Lint filter was not effective when tub was partly filled, and replacing or removing lint filter required removal of agitator screw cap (very inconvenient). A switch shuts off machine when load is unbalanced. It is important that a high-sudsing detergent when used in this machine be measured carefully, to avoid using too much, causing excessive sudsing.

Kelvinator, Model W500 (Kelvinator Div., American Motors Corp.) \$240. Effectiveness in washing, very good. This machine is similar to *Model KW30M* but, because of better draining action, excessive sudsing is not as serious a problem as it is with *Model KW30M*.

Philco-Bendix, Model W214 (Philco Corp., Philadelphia) \$250. Effectiveness in washing, good. Has no provision for stopping spin when lid is opened. Lint filter was not effective when tub was partly filled. Lacks automatic control to permit tub to be filled only partly. Important to use proper amount of a high-sudsing detergent to avoid excessive sudsing. To see nameplate requires removing lower front panel (inconvenient).

Speed Queen, Model A34 (Speed Queen, Div. of McGraw-Edison Co., Ripon, Wis.) \$360. Effectiveness in washing, good. Has no provision for stopping spin when lid is opened. Tub continued to spin about 1 min. after end of cycle. Lint filter was not effective. Setting dial to obtain desired level of water in tub is difficult. Tub continued to spin even when load was greatly unbalanced, causing tub to hit cabinet.

* * *

Frigidaire, Model WD-61 (Frigidaire Div., General Motors Corp., Dayton, Ohio) \$250. Effectiveness in washing, good. Has no provision for stopping spin when lid is opened, and has no lint filter. Tub continued to spin about 20 sec. after end of cycle. A switch shuts off machine when load is unbalanced. Has a "Soak" cycle. Clothes became tangled.

Hotpoint, Model LWX180 (Hotpoint Co., Div. of General Electric Co., Chicago) \$300. Effectiveness in washing, very good. Has no provision for stopping spin when lid is opened. Tub continued to spin about 45 seconds after end of cycle. Lint filter was not effective. A switch shuts off the machine when load is unbalanced.

PHYSICAL CHARACTERISTICS OF

Brand	Capacity as determined by CR's test, lb.	Top or front loading	Type of water-level control, pressure or time	Time for regular cycle, min.	Water used for regular cycle, gal., approximately			Water left in clothes, % dry weight	
					Wash, hot	Total, hot	Total, cold		
Blackstone	8	Top	T	36	15	26	14	75	
Easy	8	Top	P	31	15	20	7	75	
Frigidaire	8	Top	T	32	13	21	11	75	
General Electric	10	Top	P	42	22	29	13	80	
Hamilton	7	Top	P	38	14	27	15	80	
Hotpoint	9	Top	T	42	14	14 ^a	28	85	
Kelvinator W500	7	Top	T	33	14	20	11	70	
Kelvinator KW30M	7	Top	T	33	14	20	11	85	
Kenmore 70	9	Top	P	37	17	21	12	80	
Maytag 142B	8	Top	P	35	16	24	10	75	
Maytag 160	8	Top	P	31	16	24	9	80	
Norge	7	Top	P	36	13	24	12	80	
Philco-Bendix	9	Top	P	37	16	23	10	75	
RCA Whirlpool	10	Top	P	37	17	25	10	80	
Signature Imperial	8	Front	P	40	10	19	12	90	
Speed Queen	8	Top	T	34	13	24	10	85	
Westinghouse	8	Front	P	37	9	18	11	90	

* Height given to top of open lid.

† Crossed lines in column indicate the various combinations of wash and spin speeds possible automatically by setting of the controls at the time of starting the machine cycle. Thus, with the *Blackstone*, all (four) combinations are possible.

AUTOMATIC WASHING MACHINES

Electricity, cost per load, cents, at 3½¢ per kWhr.	Over-all dimensions, in.			Water temperature selection		Speeds†		Brand
	Width	Depth	Height*	Wash	Rinse	Wash	Spin	
0.65	26	26	51	hot warm cold	warm cold	fast slow	fast slow	Blackstone
0.66	27	27	51	hot warm cold	warm cold	fast slow	fast slow	Easy
0.66	27	27	54	hot warm cold	warm cold	fast	fast	Frigidaire
0.87	27	25	51	hot warm cold	warm cold	fast slow	fast slow	General Electric
0.70	26	27	52	hot warm cold	warm cold	fast slow	fast slow	Hamilton
0.70	26	28	52	hot warm cold	warm; cold	fast slow	fast slow	Hotpoint
0.67	27	29	52	hot warm	warm cold	fast	fast	Kelvinator W500
0.75	27	29	52	hot warm	warm cold	fast	fast	Kelvinator KW30M
0.75	29	26	53	hot medium warm cold	warm cold	fast slow	fast slow	Kenmore 70
0.70	26	28	52	hot warm cold	warm cold	fast	fast	Maytag 142B
0.52	26	28	52	hot warm cold	warm cold	fast slow	fast slow	Maytag 160
0.68	26	27	52	hot warm cold	warm cold	fast slow	fast slow	Norge
0.47	27	27	53	hot warm cold	warm cold	fast slow	fast slow	Philco-Bendix
0.87	29	26	50	hot warm cold	warm cold	fast slow	fast slow	RCA Whirlpool
0.95	30	39	49	hot warm cold	warm cold	**	**	Signature Imperial
0.89	26	29	52	hot warm cold	warm cold	fast slow	fast slow	Speed Queen
0.80	30	42	45	hot warm cold	warm cold	**	**	Westinghouse

† In the test, this machine supplied cold water during entire rinse in spite of rinse button set for warm.

** Drum rotates at a variable slow speed for washing and at constant fast speed for spinning.

Hand sprayers for the home gardener

(The beginning of this article is on page 2)

an attached container, a small amount of the liquid to be sprayed. Air carrying the liquid in atomized form is expelled into the atmosphere. Such a device can spray only when the air pump is operated; thus its action is intermittent. The solution at best reaches only a short distance from the sprayer. A further disadvantage is that the droplet size varies in the mixture from coarse to fine because the pressure is not constant and there is seldom provision for adjusting the nozzle. In addition, the amount of spraying that can be accomplished in a given time is limited because of the small size of the orifice used in the nozzle.

A second kind of hand sprayer, the so-called *continuous type*, is in general similar in appearance to one of the intermittent type; it also has a small hand air-pump, with spray liquid container attached. Internally, however, the design is somewhat different, for the air supplied by the hand pump is fed both to the solution container and to the nozzle, and there is some air pressure built up in the container. This pressure forces the solution through a fine tube to the nozzle, from which it is ejected and is carried along by

the compressed air flowing past the tip of the tube.

Atomizing action may be expected to be slightly better with the continuous type of sprayer than with the intermittent type, because some pressure is maintained as long as the user continues to operate the pump. However, as the hole in the nozzle must be small so that pressure can be built up, the spray is necessarily delivered at a rather slow rate. Some models of the continuous-type hand-held sprayers are equipped with an adjustable nozzle (or interchangeable nozzles) which enables one to obtain either a fine or coarse spray as needed.

The intermittent and continuous-type sprayers do not generally work well with spray solutions that contain suspended solids. Thus they are best adapted for use with spray products used in controlling flies, mosquitoes, wasps, moths, and other insects in the home. Either type, of course, can also be used for spraying shrubs, and in vegetable and flower gardens, if only a small amount of spraying is to be done, and if one is willing to supplement his spraying operation with use of some dusting-powder type pesticides in certain



Left: Sprayers of the intermittent and continuous household types are small and relatively light in weight. They are characterized by their low spraying rate and limited adaptability, and are suitable only for small spraying jobs. They are not satisfactory for use on trees (they lack range), and they are not well adapted for spraying the under part of leaves.

Center: The compressed-air sprayers offer a combination of advantages in all-around use not offered by any other kind of sprayer covered in this article. These sprayers provide a good stream- or fog-type spray, work on trees almost as well as the slide-pump and knapsack sprayers, are ideal for shrubs, and their steady spreading rate makes them well suited for spraying of lawns. (With sprayers which require constant pumping, it is relatively difficult to cover a lawn because the muscular action in working the pump prevents steady even movement of the nozzle.) The compressed-air sprayer is relatively difficult to clean, however, and disassembly will likely be necessary from time to time when using wettable-powder suspensions.

Right: The knapsack-type sprayer, which has good capacity and a high spreading rate, is best suited for use where the homeowner needs to do a substantial amount of spraying. It provides a variety of spray patterns from stream (shown) to fog spray and is suitable for use in spraying solutions of liquid or wettable-powder pesticides on lawns, shrubbery, or trees. The nozzle coming off at an angle is an aid in spraying the bottoms of leaves of rose bushes, etc.

cases. However, if spraying is the preferred method, and a fair-sized lawn or flower garden, or a number of fruit trees require treatment and protection, a sprayer of larger capacity and greater versatility is to be preferred.

The *stored-compressed-air-type* sprayer, commonly referred to more simply as the compressed-air type, is probably the most widely used general-purpose hand-powered sprayer. A sprayer of this kind, available in a range of capacities from about one to four gallons, will handle pesticides in solution, emulsion, or wettable-powder suspension. It is suitable to use for practically any spraying job the homeowner may have to deal with.

A compressed-air sprayer consists of a stout tank which contains the spray solution, a built-in hand pump to compress the air above the liquid in the tank, and a flexible hose with hand-controlled valve, extension tube, and one or more nozzles. The tanks on some compressed-air sprayers have a funnel top with relatively narrow opening, while others have a wide opening at the top. The former has an advantage in maintenance of an airtight seal, the latter is preferable in respect to ease of cleaning. To prepare the sprayer for use, the spray solution is mixed (strained if wettable powders are employed) and poured into the tank so that the tank is about $\frac{2}{3}$ to $\frac{3}{4}$ filled. (Indentations on the outer surface of the tank are helpful to indicate the amount of liquid.) The air pump is then inserted and locked firmly so that a good tight seal is obtained. Then the pump is operated a prescribed number of strokes to build up the correct air pressure within the tank. To spray, one directs the extension tube and nozzle toward the area to be covered and presses the handle of the control valve (which may be locked open, for steady spraying). The comparatively high air pressure above the solution within the tank forces the solution at the bottom of the tank up through a discharge tube and out the nozzle.

The air pressure required for proper operation (30 to 50 pounds per square inch) must be maintained by occasional use of the pump. The high pressure employed, coupled with a proper adjustment or choice of nozzle (several are often furnished), enables one to obtain different spray patterns and a range of droplet size from a fine spray to a solid stream. Thus the "compressed-air" sprayer can be used for weed killing on a lawn or along a fence line or wall, insect and plant-disease control on flowers and shrubs, and for spraying small- and medium-sized fruit trees, if not too many are present.

Still another kind of spraying device is the *slide-pump sprayer*, which presents certain advantages and disadvantages when compared to the

Consumers' Research did not carry out actual laboratory tests of the many different brands of the several types of hand sprayers; it was judged that tests would not provide conclusive evidence of the superiority of one particular brand over another, except after a period of time and an amount of work hardly justified by the importance of the appliance to the average consumer. We have discussed the advantages and disadvantages of various types of sprayers in a way to enable the prospective purchaser to choose the kind of sprayer best suited for his particular use.

Examination showed that the spray nozzles of several different brands of compressor-type sprayers provided similar spraying patterns and there did not appear to be sufficient basis for making distinctions on the basis of this aspect of sprayer design.

In general, brass or stainless-steel construction, for both pumps and containers, is preferable to galvanized steel for use with spray solutions, many of which are strongly corrosive (ammonium sulfamate is particularly so). Glass is least desirable, because of the danger of accident, although it has the advantage that it is easy to keep clean. If you have a choice, buy the sprayer having a container that you can easily clean and drain dry. Unintended mixing of pesticides, caused by a poor cleaning job, has caused many a wilted leaf and sickened plant. Finally, don't buy a tank of greater capacity than you actually need. If you haven't tried, you may not be aware of the hard work involved in adhering to a spraying schedule; it's better to have bought and left unused a simple 1/2-gallon \$3 sprayer than a 10-gallon fancy job on wheels, that cost \$40 or so and will rust away in the garage because it turned out to be much more trouble to use than the purchaser expected at the time he made his selection.

compressed-air type. The slide-pump does not employ an enclosed, pressurized container for the spray solution. Rather, any pail or bucket can be used that is available to the homeowner, and by proper choice of container, one can get the



The sprayer shown is of a kind that might be considered a hybrid—a cross between an intermittent and a slide-pump sprayer. The pump supplied is sturdy constructed and provides sufficient pressure to permit spraying of trees of moderate height. An adjustable swivel nozzle makes it possible to spray the under parts of leaves on rose bushes, etc., with a stream (left) or "fog" spray pattern (right). The 1.2-gallon glass jar (widely available for use in food canning) has the disadvantage that it is likely to be broken but provides several advantages in respect to ease of cleaning, easy storage of spray solution not used, and ease in changing from one type of spray material to another, as desired. A good type of sprayer for the amateur grower with vegetable and flower gardens, and one or two fruit trees to be cared for.



advantage of ease of cleaning, an important consideration with any sprayer. The double-pump is comprised of telescoping cylinders, usually made of brass of heavy wall section, with necessary washers and ball check-valves. When the pumping action is started, solution is sucked from the open container through a flexible hose into the outer pump chamber. With continued pumping the solution is forced into the inner pump chamber and thence, under pressure, through the spraying nozzle. Once the pump is primed, spraying is almost continuous, so long as the pump is operated.

A good slide pump is so designed that solutions are sprayed at up to 200 pounds pressure; thus the device provides good atomization (fogging) or it can be used on trees of medium height (up to 30 feet), with a coarser spray, by a simple adjustment of the nozzle. The slide sprayers are tiring to use, however, for the pumping action requires continuous use of arm and shoulder muscles; there is no way you can take advantage of leg muscles and body weight to obtain the pressure as one can with the compressed-air sprayers. A slide pump can be used with any type of spray solution. As with any sprayer, it should be taken

Some characteristics of the types of sprayers generally available for use by home gardeners

	Intermittent	Continuous	Compressed air	Knapsack	Slide pump	Garden hose	Pump gun (see illustrations above)
Suitable for spraying:							
Solutions	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Emulsions	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Wettable-powder suspensions	No	Not usually	Yes	Yes	Yes	No	Yes
Relative ease of use	Good	Good	Fair	Poor	Poor	Good	Good
Spraying pressure	Low	Low	Moderate	High	High	***	High
Range of capacities, gal.	1/20-1/4	1/4-1	1 1/2-4 1/2	4-6	**	5-20	1/4-1
Accessibility of container for cleaning	Fair	Good	Fair	Good	Good	Good	Good
Ease of cleaning	Poor	Good	Poor‡	Fair	Good	Good	Good
Price range, \$	Up to 1	2-8†	8-20†	20-50†	3-15†	2-10	3-6
Spraying characteristics, suitable for use on:							
Lawns	No	No	Yes	Yes	No	Yes	No
Shrubs and bushes	Yes*	Yes*	Yes	Yes	Yes	Yes*	Yes
Trees, 10 ft.	No	Yes	Yes	Yes	Yes	***	Yes
Trees, 20 ft.	No	No	Yes	Yes	Yes	***	Yes
Trees, 30 ft.	No	No	No	Yes	Yes	***	No
Ease of maintaining correct spreading rate in treatment of lawns	Poor	Fair	Good	Fair	Fair	Poor to fair	Poor

* Not well adapted for under-leaf spraying.

† More expensive models have brass or stainless-steel containers and pump housings, a type of construction that favors longer life, by improved resistance to corrosion.

‡ Determined by the container used.

§ Tanks on types not having a built-in funnel for filling are accessible, but control valves on most are difficult to disassemble and do clog when wettable powders are used.

** Determined by the pressure available and length of hose used.

apart completely each time it is used for spraying a wettable-powder mixture or an emulsion-type spray solution.

If you have need for a sprayer having a capacity in the 4- to 6-gallon range, and are willing to lug 50 to 60 pounds around on your back and operate a hand pump at the same time, you should examine various brands of the so-called knapsack sprayers. With these sprayers, the bulk of liquid in the container is at atmospheric pressure (not under high pressure as it is in a compressed-air sprayer) and by pumping action a small part of the liquid is forced from the container into the hollow piston of the pump inside the container and there put under 150-200 pounds of air pressure. The hose and nozzle are connected to this piston.

Aside from large capacity, the knapsack sprayer has the advantages of being relatively easy to clean, and most models provide constant agitation and a continuous spray because the hollow piston (which serves as a pressure chamber) is sufficiently large to eliminate pulsations and allow a build up of pressure. Further, it is not necessary to relieve tank pressure if only part of the spraying solution is used at a given time; having to release pressure is a disadvantage of the stored-compressed-air type. On the debit side, however, a knapsack sprayer is heavy, the constant pumping action is arduous, and there is considerable "wear and tear on the user's shoulders." If you really have need for a sprayer having four or more gallons capacity—as few homeowners will—you would perhaps be well advised to purchase a small, wheel-cart compressed-air sprayer, a type that is now becoming increasingly popular.

There are several other kinds of sprayers. One of these, commonly available, is the type which is attached to a garden hose and mixes, within the

spray nozzle, the concentrated liquid pesticide with the water from the hose. In the model examined by Consumers' Research the spray consisted of very coarse droplets and the spraying rate was consequently very fast. Garden hose sprayers are best adapted to the relatively coarse job of spreading a weed killer on a lawn.

Suggestions regarding use of sprayers

- If you are using a wettable-powder spray, strain it through a double layer of cheesecloth *before* pouring the suspension into the sprayer. Frequently shake the tank (if an agitator is not provided) while spraying is going on.

Flush the sprayer tank carefully after each use. To do this, remove the nozzle (and screen, if present), pour in at least $\frac{1}{2}$ gallon of clean water, work the pump to build up a little pressure, and allow the water to discharge through the hose. Clean all parts of the nozzle. Clean and dry the tank.

- If an oil-based emulsion is used, agitation is relatively less important if the solution is properly mixed at the start, but a thorough cleaning job must be done. Use soapy water or water containing liquid dishwashing detergent—not plain water—to clean the equipment, then rinse and dry thoroughly.

• If you use a weed killer in your sprayer, such as 2,4-D, be absolutely sure to wash *all* parts *thoroughly* before using it for other spraying. This advice is especially important when spraying *Ammate* (ammonium sulfamate) which, in addition to killing poison ivy, is also very destructive to the brass parts of a sprayer. It would be better still to have two sprayers, one for weed-killing herbicides, the other for general spraying. Never spray any weed killer on a windy day.



The slide-pump-type sprayer produces an excellent "fog" spray (at the left) as well as a good "stream" spray (right) for reaching fruit trees of moderate height. With the bent-type extension nozzle, it is well suited for spraying the undersides of leaves of shrubs, rose bushes, etc. The separate container for the liquid to be sprayed can be a pan or bucket, but the operator must take care not to kick it as he moves about.



- Read directions carefully—all of them—and follow them to the letter, in the interest of the safety of yourself and others.

- In general, keep the sprayed material away from your person, particularly your eyes, nose, and mouth. 2,4-D weed-killer solutions, commonly thought to be harmless to people, are actually very poisonous, and must be treated with respect. Care is necessary with nearly all types of spray mixtures and solutions, of course; they must not be treated carelessly, and especially must never be left where children can have access to them. Scores of children have been poisoned by spray mixtures and some die each year from this cause, mainly due to the thoughtlessness of parents who are unaware of the dangers of poisons or the exploring habits of youngsters. Wear goggles, if possible, and a suitable respirator, when very toxic materials are being sprayed.

Wash all exposed skin areas thoroughly after each spraying session. Protect the eyes at all times, and do not touch the eyes or lips with

fingers contaminated with spray powder or liquid. (Some pesticides can gravely injure or kill if absorbed through the skin; others are so toxic that death has occurred within an hour after ingestion of a small amount.)

A final word: we shall appreciate it if those among our readers who have had considerable experience with sprayers and have used particular types and makes will give us results of their experience, particularly information on the way a sprayer has performed over a period of time—its faults, need for service, tendency to corrode, leaking of gaskets and valves, weakness of the pump, spray tube, or nozzle, etc., or failure of the manufacturer to supply promptly and conveniently spare parts when needed as they frequently are. In sending us information about these points, please be good enough to identify the sprayer as fully as possible by maker's name and address, brand and model number, type, capacity, about the time it was bought, and the extent to which it has been put to use.

Two baby bottle warmers for use in an automobile

(The beginning of this article is on page 39)

Allstate's box, incidentally, was marked "with built-in thermostat. . . .can't overheat."

To simulate the condition arising if a bottle warmer should be laid down and forgotten among baby's clothes or blankets, we wrapped each warmer lightly in woolen cloths, with a thermometer stuck into each bundle in contact with the bottle warmer, to keep track of its temperature changes.

It did not take long for results to appear that may explain why only the *cord* of the *Formulette* was claimed to be U.L. listed. In a matter of three minutes after the device was wrapped in the cloths, its temperature rose to that of boiling water; in 12 minutes, the thermometer climbed to 375 degrees Fahrenheit and a smell of scorching was noticed. The picture on page 39 shows what we saw when the *Formulette* was removed from its wrapping of wool cloths.

The *Allstate* warmer was adequately protected by the built-in thermostat; the highest temperature it reached in the test was about 160 degrees Fahrenheit.

The conclusion is clear that the *Formulette* bottle warmer in a 12-volt car, neglected for a few minutes, might become a serious hazard, burn the skin of a baby or an adult, or start a fire. Any such device should have adequate thermostatic protection to prevent excessive overheating. In an earlier test at 6 volts, the highest tempera-

ture reached was 205 degrees, and the plastic case of the bottle warmer did not melt as it did when the device operated on 12 volts, as shown in the picture. The hazard, then, would be less in a 6-volt car, but at that voltage (as reported above) many users might judge the *Formulette* would be of little use, anyway, because of the long time needed to heat milk to a suitable temperature.

A. Recommended

Allstate Auto Baby Bottle Warmer (Sears-Roebuck's Cat. No. 28-824) \$3.35, plus postage. For use only in cars with 12-volt electrical systems. Milk was heated in 14 min. from refrigerator to body temperature. The bottle would need careful handling to avoid spillage, as milk or formula could not be cleaned out completely if it were spilled inside the warmer. A thermostat protected against hazards of excessive overheating. Not listed by U.L.

C. Not Recommended

Formulette Automobile Baby Bottle Warmer (Formulette Co., Inc., Jamaica 33, N.Y.) \$3.50. At 6 volts, the device took a long time to heat milk, well over an hour. With connections set for 12 volts, heating time for milk was about $\frac{1}{2}$ hr., but the device, if neglected, could overheat greatly, with the possibility of burning the infant or another person, or of causing a fire. Not listed by U.L.

An open letter to the Food and Drug Administration

THE following is from the text of a release issued by the Food and Drug Administration of the U. S. Department of Health, Education, and Welfare:

The Food and Drug Administration today announced a proposal to establish a standard of identity for chemical preservatives used in food fats and fatty foods... to retard the development of rancidity....

An acceptable label statement for a fabricated food containing the added preservative would be "fat preservative added" or "fat antioxidant present to retard rancidity."

Commissioner George P. Larrick said that one of the major purposes of the proposed order is to require on preserved fats and foods containing such fats, labeling that will be informative to the consumer. There has been much consumer confusion and misunderstanding because of the declaration by chemical name of the presence of such preservatives. Adoption of the standard of identity will clarify consumer understanding in this area and will promote honesty and fair dealing, Commissioner Larrick stated.

Interested persons are invited to present their views in writing....

Dear Food and Drug Administration:

Interested? Indeed we are! And here is a brief statement of our "views in writing."

We like to know what we're eating, chemicals and all—and that goes even for those of us who may not be able always correctly to spell or pronounce all of the names.

We do favor the idea of explaining on labels what the additives are for. That practice might well serve to "clarify consumer understanding." But stating the purpose of a substance is in no sense an adequate substitute for giving a precise, recognized name, one by which the material can be specifically and unmistakably identified.

Alert consumers require *more* information about foods and beverages, not less. They would like to know the amounts of all additives used, in addition to their explicit technical names. *Under no circumstances should the names be omitted or covered up by catch-all, non-identifying expressions such as "preservative," or "antioxidant" (or stabilizer, sequestrant, emulsifier, etc.).*

The reader of a food package label is entitled to learn exactly what's in the package, so that on

Surely chemical additives were not in the minds of the federal lawmakers who provided that "a reasonable definition and standard of identity" could be set up "for any food, under its common or usual name as far as practicable."

Now, however, the Food and Drug Administration's lawyers are considering the adoption of a new standard of identity, for a group of chemical fat preservatives that of course are not foods at all in any normal use of the term, and certainly are not in the sense intended by the food and drug law pioneers who developed the idea of setting standards. Far from "promoting honesty and fair dealing in the interest of consumers," as the law says standards should, the new rule would actually help food packers and processors to withhold information from consumers.

Under the new standard, food packers could incorporate into their products 13 chemical preservatives, singly or in various combinations allowing as many as seven chemical additives in one food product, and the labels of the food need not say which or even how many chemicals were used, but merely "fat preservative added" or "fat antioxidant added to retard rancidity."

In the accompanying "open letter," Consumers' Research urges the Food and Drug Administration not to adopt the proposed new regulation. We give important reasons for our insistence that labels should tell consumers, in full detail, the names of the ingredients in every food product that is offered for sale.

the basis of his own knowledge and experience and his own judgment of the information available to him, he can select what he wants and avoid what he prefers not to eat, for whatever reason he may choose. (The names of ingredients, incidentally, should be spelled out in fully legible type appearing on a strongly contrasting background, so that

CINNAMON RUGGED COOKIES

These delicious CINNAMON RUGGED COOKIES are made from the following quality ingredients: High Grade Patent Flour, Sugar, Shortening, Eggs, Sugar Syrup, Leavening, Salt, Cinnamon, Artificial and Pure Flavors, Butylated Hydroxytoluene, Propyl Gallate, Citric Acid, Propylene Glycol, Monoesters added to help maintain freshness.

SEE REAR PAGE FOR INGREDIENTS

Under a proposed new federal regulation, the imposing list of additives on this label could be shortened and made far less informative. Three of the chemicals, though present, would not have to be named on the label for the information and protection of consumers.

the words can be read without the aid of extra-good illumination or use of a magnifier.)

One of a number of important reasons to keep the precise names of the additives on food packages is the ever-present possibility that a material considered safe today will be found hazardous tomorrow. Such a reversal in judgment has occurred often enough in the past (e.g., saffrol in soft drinks, coumarin in chocolate, diethyl stilbestrol in chickens, Red No. 1, and several other coal-tar dyes in many kinds of foods). When *Ingredient X*, hitherto considered harmless, is judged a carcinogen, we want to be in a position to know just which packages contain *Ingredient X* (identified by its own specific, generally recognized name, not just as an "antioxidant," a "flavor additive," or a "certified color"), so we can get rid of any packages in our homes that contain the unsafe or questionable ingredient, and can avoid buying more.

We can understand the concern of additive makers and food packers that long, complicated chemical names may have depressing or sales-discouraging effects on some people. The informed consumer, of course, knows he has other things to be afraid of than the mere *names* of additives. Some animal growth stimulators, emulsifiers, and consistency modifiers may conceivably do no particular harm, but diethyl stilbestrol, polyoxyethylene sorbitan monostearate, or carboxymethylcellulose might. In any case, the length or complexity of an additive's name is no excuse for concealing the presence of any chemical additive. We see no objection, however, and some merit, in moves in which *consumers* would have a voice, toward adoption of simplified names, provided ambiguity or generality is invariably avoided. There must be no substitution of a generic or broad term, e.g., anti-browning agent, for an exact and explicit one such as sodium sulfite. One can check on the latter, if need be, but the term anti-browning agent with its vagueness and uncertainty is not enough, since there are both harmless and clearly injurious ways of preventing browning of fruits.

The chemical additives which may be used, but under the new rule would not need to be named on labels, are: butylated hydroxytoluene, butylated hydroxyanisole, gum guaiac, nordihydroguaiaretic acid, propyl gallate, tocopherols, isopropyl citrate, stearyl citrate, citric acid, monoisopropyl citrate, ethylenediamine tetraacetic acid or its calcium and/or sodium salts, glycerol monooleate-monocitrate, phosphoric acid.

The honest way to label food is to disclose every ingredient and its quantity. Every "optional" material that need not be disclosed, every preservative or other additive that can be described in some general way without stating exactly what chemical has been used is a step away from the simple candor that ought to be required by regulations of the Food and Drug Administration, the candor that provides a chance to get rid of an unwise purchase when the Food and Drug Administration's hindsight proves to be better than its foresight on a food dye, an anti-foaming agent, a sequestrant, a flavor ingredient, or what have you.

In the interest of consumers, we respectfully urge that additives are *not* foods, and that the proposed fact-concealing standard of nomenclature should *not* be adopted, and that those who add chemicals to food should be required to disclose on labels the specific name of each additive employed. If that makes labels long and disturbing to questioning readers, so much the better. Manufacturers will then have good reason to use fewer, simpler, and less artificial additives, and more of old-fashioned, familiar ingredients like meat, eggs, fruits, and true fruit juices, unsulfured molasses, and natural flavors, herbs, and spices.

Yours sincerely,
CONSUMERS' RESEARCH, INC.

Room air conditioners

THE air conditioner business is a speculative one, for sales of room air conditioners are most unpredictable; they will remain so until possibly a Tires satellite or one of its progeny sends back the information needed to provide reliable weather forecasts many months in advance. As things are, manufacturers' fall production schedules are based in great part upon necessarily unreliable prognostications of what the weather conditions will be during the following summer, coupled with a hunch and a hope that it will be a long, very hot summer, even though the long-range weather "experts," such as they be, may prophesy a cool one.

As a result of these uncertainties, there are always thousands of brand-new but one-year-old room air conditioners left over for sale in the following year, and if the summer is not a hot one, but cooler than expected, as was the summer of 1960, then hundreds of thousands of conditioners are left over to be sold in the next spring and summer. Indeed, it is estimated that from 700,000 to 900,000 1960 model room air conditioners will be sold in 1961, representing about half of the total sale of this appliance expected for 1961.

Obviously neither the manufacturers nor the dealers could absorb the huge losses that would be incurred if last year's models were "dumped" at very heavy discounts, just so the new models could be pushed as a completely redesigned and vastly improved appliance. The questionable practice of making appliances seem out of date by yearly model changes—so-called forced obsolescence—has been followed with many appliances in past years and still prevails in an especially costly and disadvantageous form in the marketing of U.S.-made automobiles. Fortunately for the consumer, some important producers of major appliances are setting a trend toward bringing out new models only when the new models can really show marked improvements in operating efficiency or convenience. This is a drastic change from the "New Year, New Model" philosophy formerly adhered to, which, in the main, amounted to nothing more than a face-lifting operation for which the consumer, of course, must pay (since newness or apparent newness is always charged for, and often comes high).

There are many new models in the manufacturers' lines of room air conditioners for 1961. There are also many models carried over from the 1960 lines. It was found, in fact, that 8 of the 10 models of room air conditioners tested by Consumers' Research in 1960 were included in the

1961 model listings, with identical or only slightly changed model numbers. In those few instances where changes in specifications were to be noted between the two models, the differences were small enough to fall within the variations that could be expected to exist on tests of different samples of the same model (the test specifications allow individual variations up to 8 percent between two test samples of the same model). For these reasons, Consumers' Research did not feel that it would be worth while to expend the sums required for tests of the so-called 1961 model air conditioners.

The principal characteristic the prospective purchaser is concerned with when buying an air conditioner is its cooling capacity. Whereas only a few years ago manufacturers were selling air conditioning by the horsepower—a method that lent itself to misrepresentation and deception—they are now rating their conditioners on the basis of the actual amount of heat extracted from the room by the conditioner under standard test conditions. Thus, if you are interested in particular models not included in the listings but having similar heat removal capacities measured in Btu (British thermal units) per hour, you may arrive at a reasonably safe conclusion if you base your personal choice on your own evaluation of size, appearance, convenience, and versatility of the controls furnished, and similar characteristics easily determined by a superficial examination. Determinations of noise level and relative efficiency (economy in use of electricity), of course, would be lacking in such a comparison, though an exceptionally quiet or exceptionally noisy air conditioner could often be noted as such in the dealer's stock, if plugged in for a short period.

The brief listings following have been condensed from Consumers' Research's more complete report on the 1960 models which was included in the June 1960 BULLETIN. It is felt that the information included will be sufficient to enable the consumer to make a good choice among models offered him. Those who wish more complete information may obtain a copy of the previous article upon sending 25 cents (coin or stamps).

The conditioners are listed alphabetically within the *A*, *A-*, and *B* rated groups.

A. Recommended

Coldspot (Sears-Roebuck's Cat. No. 6015) \$200, plus shipping. ¶Cat. No. 6115, in the new Spring and Summer 1961 catalog, appears similar.

Summary of Consumers' Research findings on the air conditioners listed

	Carrier	Chrysler	Coldspot	Fedders	Frigidaire	General Electric	Philco	RCA	Whirlpool	Welbilt	Westinghouse
Front grille/material	Plastic	Plastic	Plastic	Plastic	Metal	Plastic	Metal	Plastic	Plastic	Plastic	Plastic
Ease of removal	Good	Sat.	Good	Good	Good	Sat.	Good	Good	Good	Good	Good
Filter, washable?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Treated with a germicide?	No	No	Yes	No	No	No	Yes	Yes	No	No	No
Exterior fins shielded?	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes
Workmanship	Sat.	Sat.	Sat.	Good	Good	Good	Sat.	Good	Sat.	Sat.	Sat.
Construction	Good	Good	Good	Good	Good	Good	Good	Good	Sat.	Good	
Weight, pounds	116	155	140	162	148	158	125	150	110	98	
Btu/hr. rated cooling capacity	9000	9000	8500	9200	8000	9500	7700	8700	9000	9000	
Relative efficiency	Average	Average	Average	Average	Average	High	Low	Average	Average	Average	
Noise level, indoors	Average	High	Low	Low	High	Low	High	Low	High	Average	
Outdoors	Average	Average	Average	Low	Low	High	High	Low	High	Average	

Sat.—Satisfactory.

Fedders, Model 12-D-2 (Fedders Corp., Maspeth 78, L.I., N.Y.) No established list price. About \$270 in New Jersey.

General Electric, Model R-161-16 (General Electric Co., Louisville, Ky.) No established list price. About \$300 in New Jersey. ¶1961 Model R 261 appears similar, with slight and unimportant changes in rated moisture removal capacity and watts input.

A-

Carrier, Model 51BA090101 (Carrier Corp., Syracuse) No established list price. ¶1961 Model 51HA0901 appears similar, with slight changes in rated air circulation and watts input.

Frigidaire, Model AI-100M (Frigidaire Div., General Motors Corp., Dayton 1, Ohio) \$330 in New Jersey. Not included in 1961 model listings.

RCA Whirlpool, Model C-100B-2 (Whirlpool Corp., St. Joseph, Mich.) No established list price. ¶1961 Model

C-100C-20 appears similar, with slight changes in rated Btu capacity (raised to 8800) and air circulation.

B. Intermediate

Chrysler Airtemp, Model 510-02 (Airtemp Div., Chrysler Corp., Dayton 1, Ohio) No established list price. \$360 in New Jersey. Not included in Chrysler list of 1961 models.

Philco, Model 80AC021 (Philco Corp., Tioga and C Sts., Philadelphia 41) \$250. ¶1961 Model 80AC121 appears similar.

Werbilt, Model 6WG (Werbilt Corp., Maspeth, L.I., N.Y.) Retails at about \$200. ¶1961 Model IW12 appears similar.

Westinghouse, Model MCA-121C (Room Air Conditioning Dept., Westinghouse Electric Corp., Columbus 16, Ohio) List price, about \$270. ¶1961 Model MCB121 appears similar, except for slight changes in rated air circulation and watts input.

Planning a long trip, or a cruise?

A PERSON going on a cruise or other long trip will often find it worth while to provide coverage against theft, loss, or accidental damage to cameras and accessories during the period of the trip. Such coverage, effective during a stated short period, can be had for a charge of about \$3 for a two-week period for a coverage of \$500. Persons who own really valuable photographic equipment will find it worth while to carry what is known as a "camera floater" which covers cameras, projection machines, binoculars, microscopes, telescopes, and other articles which may be used in conjunction with photographic equipment.

This type of insurance is, however, pretty expensive for small coverages. The rate is around

\$1.30 per hundred dollars of value, but with a minimum charge which normally is about \$9 or \$10 a year. (A lower rate, of \$5 a year, applies in New York State and Texas.) All-risk floater insurance for cameras is available from a number of stock and mutual insurance companies, and it should certainly be utilized by those who have expensive equipment, having a resale value of upwards of \$1000, and whose travel, or mode of use (on the water, for example) involves substantial hazard of loss or damage. One type of comprehensive home insurance will provide the same general coverage as the separate "camera floater," but is usually written with a \$50 loss deductible clause.

Letters from our readers

Lindane vaporizers

I enclose a description of a pest control device. The price is on the order of \$5, and I would like to try it for effectiveness; however, I am concerned that it may be a health hazard. Can you advise me on the health question? Any other information on the device would be appreciated.

L. W., California

► The device that you ask about vaporizes Lindane insecticide (gamma-benzene hexachloride) by means of an electric heating unit. It is sold for the purpose of controlling flies and other flying insects. Lindane is poisonous, and a Lindane vaporizer should never be used in homes or in offices.

Reports by health agencies and government departments point up the need for extreme care in using insecticide dispensers or vaporizers, even in commercial establishments. The vaporizing devices should not be used for prolonged periods in any location, and should not ever be used in rooms or areas where food is served, processed, or stored.

Rubber tile flooring

I purchased a large, rather old house quite a few years back. The floor construction is poured reinforced concrete—elevated well off the ground and completely dry. The covering of the majority of the floors is thick rubber tile. The appearance of the tile is not too bad, but the lighter tiles are showing some wear and such porosity of the surface that it is almost impossible to keep them clean even when they are given several coats of floor wax.

I wondered, with all the new types of plastics and surface finishes available, if there would be some type of plastic coating that could be sprayed or painted on these floors to give them a slick, hard finish.

G.R.Y., Florida

► From the description of your rubber tile floors, we would judge that your tile probably needs the attention of a professional floor cleaner. Rubber tile flooring is beautiful, but it requires careful maintenance, since it is easily damaged by alkaline or caustic cleaners, or by lacquers, shellac, or varnishes, as well as solvents, and all sorts of oily and greasy materials (including that on an oiled mop). Various chemicals cause pitting or other deterioration of the surface which makes for a poor appearance.

If the floor is not in too bad condition, it may be possible to improve its appearance by using a "neutral floor cleaner." Most companies specializing in floor preparations make a neutral cleaner suitable for rubber floors. It is likely, however, that dry polishing with a very fine steel wool to remove any wax buildup and the rough oxidized surface will be necessary.

A good job calls for professional equipment and professional know-how. Most recommendations are for using No. 3 dry steel wool under the brush of a scrubbing machine to cut away the oxidized surface, then vacuum cleaning, followed by buffings with No. 1 or No. 0 steel wool, vacuum cleaning, and finally polishing with No. 000

steel wool. With a badly worn or damaged floor it is necessary, before the floor can be treated properly, to remove all the old rough, pitted surface down to the point where the tile begins to show a sheen. Otherwise, wax will not produce a gloss and an even, pleasing appearance, regardless of the number of coats applied or the amount of polishing done.

Sealing compounds should never be used on rubber tile, for they may damage the surface. Regardless of the type or composition of rubber tile, surface finishes, such as those provided by shellac, varnish, paint, lacquer, or plastic coatings, will be unsatisfactory because the floors will "give" under weight and the coating will chip or flake off and look very uneven after a time.

Lightning rods

I recently had lightning rods installed on my home and the company installing them stated that the lightning rods would guarantee that lightning would not strike on or near my home. I had always been under the impression that the purpose of a lightning rod was to attract lightning and to conduct it into the ground harmlessly. However, the man who installed my lightning rods told me that that was not the case. He stated that the purpose of lightning rods—at least on homes—is to dissipate electrical charges from the ground into the air, thereby preventing such charges in the earth from attracting lightning.

I think it would be interesting for you to look into this question and settle it once and for all. I think that many people who should have lightning rod protection do not get it because they fear that lightning will strike the rods.

R.R., Pennsylvania

► We are afraid that your installer has been misinformed on the basic principles of lightning rod protection or has adopted an argument which may be more attractive from the sales standpoint than the actual manner of operation of lightning rods.

As stated in the Standard Handbook for Electrical Engineers, 8th Edition (A. E. Knowlton, editor, McGraw-Hill, Publisher), "Operation of a lightning-rod system depends upon the principle of intercepting the lightning stroke before it reaches the structure to be protected, and discharging the lightning current to ground. . . ."

Also the excellent pamphlet, "Code for Protection Against Lightning," No. 78, of the National Fire Protection Association states "The sole purpose of lightning rods or grounded metal roofs is to protect a building in case a stroke occurs, there being no evidence or good reason for believing that any form of protection can prevent a stroke." (Bureau of Standard staff members cooperated in preparation of code cited.)

Effective lightning protection requires not only proper rods and grounds, but also interconnection of interior masses of metal to avoid the danger of side flashes. All this is covered in the Lightning Code.

This 46-page pamphlet, a handy reference and guide for anyone interested in lightning protection, is available at 50 cents from NFPA, 60 Batterymarch St., Boston 10, Mass.

Timely advice to the spring gardener

THERE is something about the first days of spring that melts the sales resistance of the amateur gardener (or the person who just likes to tend a modest lawn) to the persuasive selling and advertising of many worthless products. Take the ailanthus tree, glowingly described as the fast-growing "tree of heaven," which is actually a pest. True, it grows fast, but it is brittle and its branches are likely to crack or break off in winter storms; it is messy, drops seeds, and small branches. It takes root not only in the lawn, but in cracks in sewer pipes and sidewalks. It has an unpleasant odor.

The promotion of this particular item is typical of a certain type of horticultural advertising, which concentrates on at least one "new sensation" or novelty plant each year and pushes it hard by direct mail and full-page newspaper advertisements which portray the product as a new floral or horticultural discovery or as something of fabulous value. Before ordering one of these wonders, check with the National Better Business Bureau, Chrysler Building, New York City, or your local Better Business Bureau. Your local Agricultural Experiment Station may also be able to give you good advice.

While there are many reputable mail-order houses in the horticultural field, there are also racketeers who promise beautiful, vigorous, "super" plants of various kinds and then supply small dried-up inadequately-packed cuttings and scrawny shrubs that will not grow. In ordering by mail, be sure that the supplier gives you a printed guarantee of your money back if the item fails to live up to the advertised promises. Report the whole transaction to the Federal Trade Commission (Washington 25, D.C.) or the nearest city Better Business Bureau if you fail to receive satisfactory stock or a prompt refund.

After the planting season comes the time for battling the bugs. There is a wide variety of pesticides available from grocery, hardware, and garden stores, many of which involve dangers to human beings as well as to lower forms of life. Federal law requires that each container of poisonous garden chemicals shall carry a warning label indicating the hazards to the user. All cans, bottles, and bags should be kept well out of children's reach and away from pets. As warnings on various products will indicate, it is important to avoid inhaling dust or spray of insecticides; also avoid their contact with the skin and all possibil-

ity of contamination of food or feed for pet animals.

There are new techniques for applying pesticides by spraying, using the water hose and home water supply. Unfortunately, under certain conditions, the home water supply can be contaminated by the back-siphoning of the toxic chemicals. Health authorities urge that outside water faucets or underground sprinkler systems should always be equipped with vacuum breakers to prevent back-siphonage in case water pressure fails for some reason. (This can happen at times on any water system, municipal or private.) It is a good idea to disconnect the garden hose from the outside faucet whenever spraying of poisonous insecticides or fungicides is discontinued, even if it is only for a short time.

In planning garden and lawn landscaping, give a thought to caring for the birds. Certain shrubs and trees not only provide beauty, but may also supply food for wildlife through much of the year. The selection will vary according to the locality, but keep in mind that birds like the shelter and nesting possibilities of a hedgerow, such as viburnum, Japanese barberry, coralberry, privet, and multiflora roses. For shelter combined with safety, the birds favor evergreens, including red cedar, spruce, hemlock, and pine. Trees that provide food include dogwood, Washington hawthorne, mountain ash, cherry, and oak trees. Birdhouses properly designed for particular species native to the region are helpful in attracting birds. To be effective, they should be properly designed, and an excellent pamphlet on the subject is available for 10 cents from the Massachusetts Audubon Society, South Great Rd., South Lincoln, Mass.

In your landscaping activities, consider the family driveway, which can be attractive as well as useful. For safety's sake, it is advisable to include a turnaround and to provide for parking one or two cars for your visitors. The most practical driveway topping for permanence and neatness is asphalt or concrete. The gravel blue stone chips and other special materials may be good-looking at first, but they are likely to scatter and ruin the adjoining turf, wash out of place and dull the lawn mower blades, or disappear into the subsoil. Asphalt, though not as durable as concrete, can be patched more successfully. Neither should be applied by the do-it-yourself method, unless the person is accustomed to working with

the material he will use. For a good job, concrete, and especially asphalt, require a specialized equipment and an adequate working crew.

After you get the landscape problems settled, don't forget to have the lawn mower cleaned,

sharpened, supplied with clean oil, and put into good shape for the summer ahead. There are those who think mowing a lawn is an excellent way to get needed exercise, even if you use a power mower.

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Automobiles, expense record booklet.....	Mar. 37	Lenses, contact, bifocal*	Jan. 14	Soils, effects on food quality*	Jan. 20
greasing.....	Mar. 2	Lights, electric, night*	Feb. 2	Stainless-steel flatware*	Feb. 18
small, best from an investment		Lipstick stain removal.....	Mar. 37	Stylus pressure gauge*	Feb. 25
standpoint.....	Mar. 22	Luminous devices and reflecting		Sugar, enemy of good	
spark plugs, selecting right type*	Jan. 2	materials*	Feb. 2	nutrition*	Feb. 10, Mar. 39
Building codes, faults in.....	Apr. 3	Mattresses, foam	Mar. 38	Suntan preparations, problems.....	Apr. 38
Cameras, pitfalls in taking pictures*	Mar. 23	support for backache sufferers.....	Apr. 4	Teeth, anti-decay agents, quest for.....	Apr. 3
Cements, epoxy-resin*.....	Feb. 28	Medicine, antacid tablets, caution.....	Mar. 3	Toaster, electric, new*	Apr. 39
Comforters, Acrilan, care.....	Feb. 38, Apr. 38	Milk, possible cause of sudden infant		Tools, shaping, new*	Apr. 16
Consumer Frauds Bureau, New Jersey's.....	Apr. 32	deaths in cribs.....	Mar. 38	Trailers, mobile homes*	Feb. 6
Consumer preference for quality goods.....	Apr. 4	Mobile homes*.....	Feb. 6	Trampolining, hazards.....	Apr. 3
Consumers, do they buy many things		Motion pictures, ratings*.....	each issue	TV sets, safe use in schoolrooms*	Mar. 26
they don't need?*	Mar. 32	violence, decadence emphasized*	Jan. 33	Weight control, booklet on.....	Apr. 37
Contact lenses, bifocal*.....	Jan. 14	Orange juice, standards.....	Mar. 3	Entries marked (*) are longer or more comprehensive items.	
Disposers, food waste*.....	Mar. 6	Ovens, electric, built-in*.....	Apr. 18	NOTE: Back issues of CONSUMER BULLETIN	
Drum sets, practice, quiet type.....	Apr. 4	Photography, pitfalls*.....	Mar. 23	(1960-1961) are available at 40 cents each,	
Dryers, hair*.....	Jan. 16	Plants, house.....	Feb. 37, Mar. 3	1959 and earlier issues, 50 cents each. Recent	
Electric home heating*.....	Jan. 24	Plastic clips for fastening plastic bags		reprints are listed on p. 23 of Jan. '61 issue.	
Eyes, artificial, buying.....	Mar. 2	for freezer storage.....	Apr. 38		
Film, color, negative*.....	Jan. 39	Polishes, silver, tarnish preventive*.....	Jan. 6		
Flashlights, rechargeable*.....	Feb. 39	Pools, swimming, problems.....	Apr. 3		
Flowers, cut, merchandising.....	Mar. 4	Porcelain enamel, chipped, repairing*.....	Feb. 28		
gift check, new florist service.....	Mar. 37	Potatoes baked in aluminum foil.....	Apr. 38		

Guarantees

IT ISN'T any secret to consumers that one of the principal faults of guarantees has been the reluctance of advertisers to state precisely what the guarantees cover, and then, to state who is responsible for making good. What consumers may not know is that the Federal Trade Commission has started to crack down on business concerns, warning them that they are legally liable for the truth of advertised guarantee claims. This applies even to advertisers using 10-second "spot" radio and TV commercials.

According to the F.T.C., the advertising of guarantees should answer questions like these: What product or part of product is being guaranteed? For how long a time? Will the guarantor repair the product, or replace part of it, and charge the owner for labor? Will he give him a new product? Who is guaranteeing the product,

the manufacturer or the dealer? If products are guaranteed on a pro-rated basis, upon what conditions will adjustments be made? Is routine servicing covered by the guarantee?

Would you like to try these questions on salesmen and advertisers?

Many products, of course, are not sold in interstate commerce and thus do not lie within the commission's jurisdiction.

The commission urges that the consumer would do well to be sure of the conditions of a guarantee at the time of sale.

Consumers' Research suggests that above all the consumer should get any guarantee in writing, and fill it in at the time of purchase with the date of purchase, installation, etc. And keep the papers connected with the sale. You may need them in order to have the guarantee honored.

Phonograph Records

BY WALTER F. GRUENINGER

Please Note: Stereo records are indicated by the symbol **(S)**. Ratings (AA, A, B, etc.) apply first to the quality of interpretation, second to the fidelity of the recording. Most performances are available on both stereo and regular LP records.

(S) Bach: *Concerti for Harpsichords*—2 Harpsichords in C, 3 Harpsichords in C, 4 Harpsichords in A Minor. Marlowe, Cook, Conant, T. Sadenberg (harpsichords) and the Baroque Chamber Orchestra under Daniel Sadenberg. Decca DL 710028. \$5.98. When the concerti are performed on stage, there's a big how-de-do which makes watching fun. The music that emerges impresses one mostly for its vigor. Bach is well served here by soloists and orchestra. Acceptably recorded. **AA A**

(S) Handel: *Ode for St. Cecilia's Day*. N.Y. Philharmonic under Bernstein. Columbia MS 6206. \$5.98. A stunning work for tenor (John McCollum in this recording), soprano (Adele Addison), chorus (Rutgers University Choir), and orchestra (the Philharmonic). It was Handel's second *Ode for St. Cecilia* so it is obvious he was determined to do well with the composition. And Bernstein's forces do well by Handel. McCollum is a real pro at this sort of thing. Adele Addison's fresh voice is a pleasure to hear despite the fact she sings with caution. Everybody else is first rate. Rich, spacious recording to boot. **AA AA**

(S) Rachmaninoff: *Symphonic Dances & Casella: Paganiniana*. Philadelphia Orchestra under Ormandy. Columbia MS 6205. \$5.98. The Rachmaninoff—a colorful, superbly orchestrated work of symphonic proportions—was the last composition of this composer. The Casella presents Paganini selections adapted to symphonic orchestra. The Philadelphians offer a vital, polished, virtuoso performance of both works which are remarkably well recorded. **AA AA**

(S) Soler: *Six Concerti for Two Organs*. E. Power Biggs and Daniel Pinkham (organs). Columbia MS 6208. \$5.98. Thoroughly enjoyable, a stereo natural. Mr. Biggs' *Flentrop* comes out of the left speaker, Mr. Pinkham's *Hess* comes out of the right. The music, composed by the Spaniard, Soler, in the early 18th century, holds the interest so there's more than a gimmick here. Performers and engineers have done a superb job. **AA AA**

(S) Vivaldi: *Four Concerti for Two Violins and Orchestra*. Isaac Stern and David Oistrakh (violins) with members of the Philadelphia Orchestra under Ormandy. Columbia MS 6204. \$5.98. Vivaldi composed more than 20 concerti for two violins and orchestra, apparently enjoying this form. Here you have two of the foremost violinists of our day collaborating to give us a performance that can hardly be surpassed. You hear one violin principally from left of center, the other from right of center. The small orchestra spreads its sound to join both soloists. Very well recorded. **AA AA**

An Enchanted Evening. Earl Wrightson (baritone). Columbia CL 1519. \$3.98. Wrightson belts out lesser Broadway tunes in a voice superior to that commonly heard on Broadway but lacking in nuance. Agreeable, new orchestral backgrounds. Included are "They Call the Wind Maria," "Lost in the Stars," "My Romance," "Right as the Rain," "If There is Someone Lovelier than You"—and others. Acceptably recorded. **A A**

(S) Brazen Brass Goes Hollywood. Henry Jerome and His Orchestra. Decca DL 74085. \$4.98. Audiophiles may find this one exciting because of the wide stereo separation. Open brass on the left, rhythm in the center, muted brass on the right. Most of it very loud, in dance tempo. Movie themes and title songs such as "Around the World," "High Noon," "Gigi." Very well recorded. **AA AA**

Do. Re. Mi. Fa. Sol. La. The Sing-Along Children's Chorus, Kapp K 1234. \$3.98. An eager-beaver group of youngsters, some with fine voices, sing in unison "Clementine," "John Peel," "The Ballad of Davy Crockett," "Swinging on a Star," and others. The high pitch may irritate oldersters after awhile, but the children are likely to love it and sing along. Good recording. **AA A**

(S) Electronic Music. Epic BC 1118. \$5.98. Is this the music of the future? I hardly think so. But if the

sound you or your children associate with space ships, the great new frontiers of the blue, bird calls, auto horns, etc., excites you, then this disk may be for you. . . and may stimulate discussion when friends hear it. The works by Badings and Raajmakers employ the entire apparatus of the studio of Philips' Physics Labs in Eindhoven. Oh yes! You'll hear a *real violin* for a few minutes in the "Capriccio for Violin and Two Sound Tracks." It's played by Joke Vermeulen and it is ever so welcome. **AA AA**

(S) Finlandia. Philadelphia Orchestra under Ormandy. Columbia MS 6196. \$5.98. Included are "Finlandia," "Peer Gynt Suite No. 1," "Swedish Rhapsody," and "Valse Triste"—music from Finland, Norway, and Sweden. The Mormon Tabernacle choir sings the central section of *Finlandia*, something Sibelius didn't intend that had better been left undone. Tolerable, competent playing with no great flair. The sound of the violins in high registers is harsh. Rich sound in middle and lower registers. **A A**

Margaret Whiting Sings The Jerome Kern Song Book, Vols. 1 and 2. Verve MG V 4039/40. \$4.98 each. Margaret Whiting has an agreeable voice, clear pronunciation, flair. Yet she and the orchestra under Garcia "modernize" these tunes, make them their tunes, instead of Jerome Kern's. If you ever heard Marilyn Miller sing "Look for the Silver Lining" or Helen Morgan sing "Why Was I Born" and "Bill," you are not likely to prefer Margaret Whiting's performance. Not that she couldn't DO it as well, but she chooses to sing it *her way*—and that way just doesn't seem right to me. Many wonderful songs here. Excellent recording. **B AA**

(S) Sound Effects. Vol. I. Audio Fidelity DRS 7006. \$5.95. While professionals in sound will find this disk handy for ocean liner whistles, jet taking off, sink draining, IBM electric typewriter, fire engine, carousel, etc., the hi-fi fan will use it to show off his rig. The fidelity is astonishing. In all, there are 50 sounds, each lasting around half a minute. The bands of the record have been "locked" to prevent your picking up the next, unwanted sound but for home demonstrations that means you must stand next to the turntable to lift the cartridge on to the next groove.

(S) The Art of the Prima Donna. Joan Sutherland (soprano). 4 sides, London OSA 1214. \$11.96. This year the soprano is Joan Sutherland who will appear with the Met next year. She seems bent on taking over the repertory recorded by such artists as Melba, Pons, Galli-Curci, Hempel, Albani, Tetrazzini. While she is a distinguished lyric soprano right now, my guess is that she will bring more color and drama to her singing in years to come. But let that not deter you from enjoying the beauty now offered by this 35-year-old artist from Australia in arias from *Faust*, *I Puritani*, *Otello*, *Lakme*, *Romeo et Juliette*, *La Traviata*, and others. . . some of which are cut. **AA AA**

(S) The Beloved Bjoerling. Vol. I. Capitol G 7239. \$4.98. The late Swedish tenor recorded these 13 French and Italian opera arias between 1936 and 1948. All lovers of musically operatic singing should buy this disk. It is questionable, since the advent of electronic recording, that Bjoerling has had a peer in his field. The sound isn't always up to the best of today (nor the original 78's), but it is close enough. **AA A**

(S) The Great Schubert Symphonies: No. 5, No. 8 ("Unfinished"), No. 9 ("The Great"). Columbia Symphony under Bruno Walter. 4 sides, Columbia M2S 618. \$11.96. Surely the best of Schubert in the symphonic field, with No. 9—the great C. Major—among the great symphonies of all time. Bruno Walter's approach to Schubert is well known. It is soft, benevolent, lyric. Others point up the drama. Schubert seems more heavenly when Bruno Walter conducts. The engineers have given the performances a broad, spacious sound that suits Schubert well. **AA AA**

Ratings of Current Motion Pictures

THIS SECTION aims to give critical consumers a digest of opinion from a wide range of motion picture reviews, including the motion picture trade press, leading newspapers and magazines—some 17 different periodicals in all. The motion picture ratings which follow thus do not represent the judgment of a single person, but are based on an analysis of critics' reviews.

The sources of the reviews are:

Boxoffice, Cue, Daily News (N. Y.), The Exhibitor, Films in Review, Joint Estimates of Current Motion Pictures, Motion Picture Herald, National Legion of Decency, New York Herald Tribune, New York Times, The New Yorker, Parents' Magazine, Release of the D. A. R. Preview Committee, Reviews and Ratings by the Protestant Motion Picture Council, The Tablet, Time, Variety (weekly).

The figures preceding the title of the picture indicate the number of critics whose judgments of its entertainment values warrant a rating of A (recommended), B (intermediate), or C (not recommended).

Audience suitability is indicated by "A" for adults, "Y" for young people (14-18), and "C" for children, at the end of each line.

Descriptive abbreviations are as follows:

adv—adventure
biog—biography
c—in color (Ansco, Eastman, Technicolor, Tricolor, Warner Color, etc.)
car—cartoon
com—comedy
cri—crime and capture of criminals
doc—documentary
dr—drama
fan—fantasy
hist—founded on historical incident
mel—melodrama
mus—musical
mys—mystery
nos—dramatization of a novel
rom—romance
sci—science fiction
soc—social-problem drama
trap—travelogue
war—dealing with the lives of people in wartime
wes—western

A	B	C	A	B	C
2	4	—	Absent-Minded Professor, The	com	AYC
—	3	—	All Hands on Deck	mus-com-c	AYC
—	3	1	All in a Night's Work	com-c	A
—	2	1	Amazing Mr. Callaghan, The (French)	mys-mel	A
—	3	3	Amazing Transparent Man, The	sci-dr	AY
—	1	2	Angel Baby	dr	A
2	8	1	Angry Silence, The (British)	dr	A
—	3	3	Another Sky (British)	dr	A
—	1	3	Atlantis, the Lost Continent	sci-c	A
—	2	1	Back Street	dr-c	A
2	3	1	Belles and Ballets (French)	doc-c	AY
—	1	2	Big Bankroll, The	cri-mel	A
1	10	—	Big Deal on Madonna Street (Italian)	cri-com	AY
—	2	1	Big Gamble, The	dr-c	A
—	1	2	Big Wave, The (Japanese)	dr	A
—	2	1	Bimbo The Great	mel-c	AY
—	5	2	Black Sunday (Italian)	cri-dr	AY
—	3	—	Black Tights (British)	mus-dr-c	A
—	2	1	Blood and Roses (Italian)	dr-c	A
—	8	3	Blueprint for Robbery	cri-dr	AY
—	3	2	Bowl of Cherries, A	mus-fan	AY
—	2	1	Breakfast at Tiffany's	dr-c	A
—	3	7	Breathless (French)	cri-dr	A
—	3	—	Bridge, The (German)	dr	A
—	1	4	Caltiki, The Immortal Monster (Mexican)	sci	A
—	2	1	Canadians, The	dr-c	AY
—	2	3	Carmen Comes Home (Japanese)	com	A
—	2	7	Carthage in Flames (Italian)	mel-c	A
1	8	6	Climarron	nov-c	AY
—	6	6	CinderFella	mus-fan-c	AY
—	5	5	Circle of Deception (British)	war-dr	A
—	3	1	Code of Silence	cri-mel	AY
—	3	—	Cold Wind in August, A	mel	A
—	2	1	Come September	com-c	A
—	5	3	Confess, Dr. Korda! (German)	cri-mel	A
—	2	1	Counterfeit Traitor, The	war-dr-c	AY
—	4	4	Crazy for Love (French)	com	A
—	4	5	Crowning Experience, The	propaganda-c	A
—	7	6	Cry for Happy	war-com-c	AY
—	1	2	Date Bait	soc-mel	AY
—	1	2	Day of the Gun, The	nov-c	A
—	2	1	Deadly Companions, The	dr	A
—	6	2	Desert Attack (British)	war-dr	AYC
—	1	3	Devil's Commandment, The (French)	cri-mel	A
—	4	2	Dog, a Mouse, and a Sputnik, A (French)	com	A
—	3	2	Dondi	dr	AY
—	7	8	Entertainer, The (British)	dr	A
—	3	—	Escape to Berlin (German)	dr	AY
—	4	8	Easter and the King (Italian)	adv-c	A
4	7	4	Exodus	nov-c	AY
—	3	1	Eye for an Eye, An (French)	dr-c	AY
—	3	—	Fabulous World of Jules Verne, The	adv	AY
—	10	3	Facts of Life, The	com-c	A
—	3	1	Fanny	mus-dr-c	A
—	2	1	Fedra, the Devil's Daughter (Spanish)	dr	A
—	2	1	Ferry to Hong Kong (British)	mel-c	AY
—	5	3	Fever in the Blood, A	dr	A
—	2	5	Five Guns to Tombstone	wes	AY
—	10	1	Flaming Star, The	mel-c	AY
1	4	3	Flute and the Arrow, The (India)	dr-c	AY
—	3	—	Four Desperate Men (Australian)	mel	AY
—	4	3	Foxhole in Cairo (British)	war-mel	A
—	6	3	French Mistresses, A (British)	com	A
—	3	2	Frontier Uprising	wes	AYC
2	7	3	General Della Rovere (Italian)	war-dr	A
7	5	—	G.I. Blues	mus-com-c	AY
—	3	—	Girl in Lovers' Lane, The	mel	A
—	1	8	Girl of the Night	soc-dr	A
—	3	8	Go Naked in the World	nov-c	A
—	2	5	Goddess of Love (Italian)	mel-c	A
—	2	2	Gold of the Seven Saints	wes	AY
—	2	8	Goliath and the Dragon (Italian)	adv-c	A
—	4	1	Gorgo (British)	adv-c	AYC
1	3	—	Great Day, The (Spanish)	dr	AYC
—	7	3	Great Imposter, The	dr	A
—	2	1	Guns of the Navarone, The	war-dr-c	AY
—	3	—	Half Pint, The	com	AYC
4	8	2	Hand in Hand (British)	dr	AYC
—	11	1	Hell is a City (British)	cri-mel	A
—	3	6	Herod the Great (Italian)	mel-c	A

A	B	C		A	B	C	
—	2	2	Heroes Die Young	—	1	2	Portrait of a Sinner, A (British)
—	—	3	Hideout in the Sun	—	1	2	Price of Silence, The
—	2	1	High School Caesar	—	2	1	Prisoners of the Congo
—	2	1	Hippodrome (German)	—	3	—	Queen's Guards, The (British)
—	5	1	Home is the Hero (Irish)	—	1	3	Question 7
2	3	—	Hoodlum Priest, The	—	4	1	Rachel Cade (British)
—	—	3	How to Make a Monster	—	3	2	Return to Peyton Place
—	2	1	Interview, The	—	2	1	Revolt of the Slaves
—	9	2	It Happened in Broad Daylight (Swiss)	—	1	5	Ritual of Love, The (French)
—	3	—	It Happened in Rome (Italian)	—	5	3	Royal Ballet, The (British)
—	2	1	It Takes a Thief (British)	—	2	1	Rue de Paris (French)
—	3	4	Jazz Boat (British)	—	3	7	Rules of the Game (French)
—	6	3	Key Witness	—	3	—	Sanctuary
—	—	4	Kill Her Gently	—	3	—	Sand Castle, The
—	3	—	Kill Me Tomorrow (British)	—	3	3	Santa Claus (Mexican)
—	3	2	Konga	—	1	3	Saturday Night and Sunday
—	1	2	Ladies' Man, The	—	6	2	Morning (British)
—	2	2	Last Woman on Earth, The (British)	—	2	6	Savage Innocents (British)
1	8	2	League of Gentlemen, The (British)	—	—	3	Secret of the Purple Reef
—	6	1	Left, Right, and Center (British)	—	3	1	See Naples and Die (Italian)
—	2	8	Legions of the Nile (Italian)	—	2	6	Serengeti Shall Not Die
—	5	10	Let No Man Write My Epitaph	—	1	2	Shadows
—	3	—	Life and Loves of Mozart, The (German)	—	3	—	Shakedown, The (British)
—	3	—	Little Angel (Mexican)	—	—	3	She Walks by Night (German)
—	3	2	Little Shepherd of Kingdom Come	—	1	2	Silent Call, The
—	2	2	Little Shop of Horrors, The (British)	—	—	3	Sins of Rachel Cade (see Rachel Cade)
—	2	2	Long Rope, The	—	1	—	Sins of Youth (French)
—	1	3	Look in Any Window	—	5	7	Sniper's Ridge
—	3	3	Love and the Frenchwoman (French)	—	7	4	Spartacus
—	5	5	Love Game, The (French)	—	3	1	Splendor in the Grass
—	—	3	Madame X (Greek)	—	1	2	Spring Affair
—	—	3	Magdalena (German)	—	1	7	Squad Car
—	3	—	Magic Boy (Japanese)	—	—	3	Stop, Look, and Laugh
—	3	—	Man Who Wouldn't Talk, The (British)	—	5	10	Sundowners, The
—	1	2	Mania (British)	—	6	3	Sunrise at Campobello
—	1	2	Mark of the Devil (Mexican)	—	1	2	Sweet Life, The (Italian)
1	6	9	Marriage-Go-Round	—	5	9	Swiss Family Robinson
—	1	2	Matter of Morals, A (Swedish)	—	7	3	Sword of Sherwood Forest (British)
—	1	2	Mighty Crusaders, The (Italian)	—	3	3	Take a Giant Step
—	5	10	Millionairess, The (British)	—	5	2	Ten Who Dared
—	5	5	Misfits, The	—	—	1	Terror of the Tongs, The (British)
—	1	3	Model for Murder (British)	—	8	1	Tess of the Storm Country
—	3	4	Modigliani of Montparnasse (French)	—	—	3	Three Blondes in His Life
—	—	3	Monster of Piedras Blancas, The	—	11	3	Three Worlds of Gulliver, The
—	3	—	More Deadly than the Male (British)	—	5	—	Tombboy and the Champ, The
—	2	1	Naked and the Wicked, The (Italian)	—	3	1	Tormented, The
—	3	—	Natchez Trace	—	2	2	Touch of Flesh, The
—	—	3	Night of Love (French-Italian)	—	3	1	Trapp Family, The (German)
1	9	4	North to Alaska	—	—	7	Trapped in Tangier (Italian)
—	2	1	Okefenoke	—	2	1	Truth, The (French)
3	9	2	101 Dalmatians	—	3	6	Tunes of Glory (British)
1	3	—	One-eyed Jacks	—	3	—	Two Faces of Dr. Jekyll, The (British)
—	2	4	Operation Bottleneck	—	10	—	Two-Way Stretch (British)
—	2	2	Operation Eichmann	—	—	3	Unashamed, The
—	2	6	Ostrich Has Two Eggs, The (French)	—	4	3	Underworld, U.S.A.
—	3	2	Parrish	—	3	3	Unfaithfuls, The (Italian)
—	2	3	Passport to China (British)	—	5	2	Upstairs and Downstairs (British)
3	7	6	Pepe	—	1	2	Violent Summer (Italian)
—	3	6	Picnic on the Grass (French)	—	2	4	Virgin Spring, The (Swedish)
—	6	1	Please Turn Over (British)	—	9	4	Wackiest Ship in the Army, The
—	3	—	Pleasure of His Company, The	—	2	5	Walk Tall
—	4	3	Plunderers, The	—	1	2	Wasted Lives and the Birth of Twins
—	3	2	Police Dog Story, The	—	4	5	Weddings and Babies
—	1	4	Port of Desire (French)	—	6	9	Where the Boys Are
—	—	—	—	—	3	4	White Warrior, The (Italian)
—	—	—	—	—	3	—	Wild Rapture
—	—	—	—	—	3	1	Wings of Chance (Canadian)
—	—	—	—	—	7	3	Wizard of Bagdad, The
—	—	—	—	—	6	6	Young One, The

The Consumers' Observation Post

(Continued from page 4)

SOME LIQUID FORMULA DIETS may be nutritionally adequate, but the patient may suffer harmful effects from repeated alternating gains and losses of weight from going on and off the liquid diet. Dr. Stanley A. Tauber of the Albert Einstein Medical Center warns that long-range effects on the body's metabolism should be considered in any major change in diet. He points out that a patient who loses weight on a liquid diet is not likely to eat a normal, wholesome, well-balanced diet and maintain the weight loss after he has achieved his immediate goal.

* * *

REAR-END COLLISIONS are now the greatest single cause of injury and death on express highways. One of the main reasons for such accidents is the apparent inability of the average motorist to judge stopping, turning, and passing distances accurately. The Keystone Motorist reports that many of the fatalities occur at night when motorists crash at full speed into the rear end of trucks, and notes that the average motorist often fails to realize the effect of higher speed on his vision and perception. His only guide is the size of the vehicle in front of him, and in darkness this is hidden, leaving only the tail and clearance lights to give him a warning that there is some sort of vehicle ahead. One recommendation is that large areas of trucks be marked with reflective sheeting so that their over-all size will be more clearly visible at night.

* * *

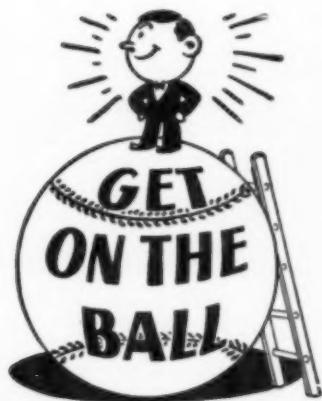
SOMETHING NEW IN WARRANTIES has been instituted by the Philco Corporation for all Philco television sets that require repairs during the 90-day warranty period. The new policy guarantees that service as well as parts will be supplied free of charge during the warranty period. In other words, there will be no cost to the customer for the serviceman's time in making the needed repairs. We shall be interested in hearing from consumers just how well the new policy works out in practice.

* * *

HEART DISEASE PATIENTS need protection from dangers of bacterial endocarditis when they have their teeth filled or extracted. Dr. W. Proctor Harvey and Dr. Maurice A. Capons of Georgetown University Medical Center suggest that heart disease patients should be treated with an antibiotic before they have their teeth worked on by the dentist, as a protection against a heart ailment involving inflammation of the heart lining and valves.

You Know What You Are Buying

IF You Consult Consumer Bulletin FIRST!



Don't be taken in by meaningless or over-enthusiastic claims for merchandise, especially the high-priced items. Consult our ratings based on scientific, unbiased tests. Looking it up in Consumer Bulletin has become the first step in making an important purchase for many discriminating consumers, particularly these days when household appliances are so complex.

In addition to the monthly issues of Consumer Bulletin, there is the big 224-page Annual Bulletin that will be off the press in September, a handy compilation of previous product ratings, with new information as well.

Want both? They're not expensive. Just turn the page for rates and a convenient order form. Why not pass it along to a friend who will profit by the information?

BEE-STINGS CAN BE EXTREMELY DANGEROUS. Not only bees' stings, but stings of wasps, hornets, yellow jackets, and spiders may be fatal, warns the National Safety Council. Death from insect stings is believed to be due to severe shock. As a rule, the person is sensitive to the venom. Adults tend to be adversely affected more frequently than children. If there is any symptom of dizziness, rapid heart beat, or difficulty in swallowing after an insect sting, a doctor should be consulted immediately.

* * *

GOVERNMENT GRADES OF BEEF are under fire by the American Meat Institute and have long been a subject of criticism by consumers whose preferences do not coincide with the "official" quality ratings. As one executive of the American Meat Institute pointed out, beef eaters are interested in tenderness, flavor, and juiciness. The federal grades do not measure these qualities because they are based on the concept that the fattest animal is the best and gives meat of the highest grade. Present-day consumers have indicated that they prefer lean, tender beef that is less wasty and not overfinished. The A.M.I. suggests that the entire cattle and beef industry get together in a program to produce the lean, tender beef that consumers want, which would involve better selection of breeding stock and improved feeding.

* * *

THE EFFICIENT AND COURTEOUS SERVICING of appliances is such an important factor in keeping the consumer's good will that one company has introduced something new. Starting in January, in Omaha, Nebraska, the Maytag Service Company has provided the "Red Carpet" service program. The serviceman, in answering a call, arrives in a white truck bearing red carpet emblems, wearing a matched uniform and carrying a white tool kit. He carries two red carpets, one to place over the appliance for protection; the other he places on the floor for his tools. After the repairs are made, the appliance is thoroughly cleaned, and a card is left with the homemaker on which she is to evaluate the work done. Can anybody who has used the Red Carpet service tell us how it is working out in practice?

* * *

SOMETHING NEW IN ZIPPERS can cause an embarrassing jam. The National Institute of Drycleaning reports that a particular type of zipper manufactured in Japan and Germany, unique in design, makes a natural seam when closed and requires no placket or overlay of material. Since the teeth of the zipper lie next to the nap of the cloth, they can easily catch and snag when closed in a hurry. If the jamming is sufficiently bad to require replacement of the zipper, the garment will need to be discarded, because the zipper is not available for purchase by consumers as yet.

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Two baby bottle warmers for use in an automobile

ON an automobile trip with an infant in the car, it is often convenient to be able to give the baby his bottle on the road, without needing to stop the car. To accomplish this, one must be able to warm the bottle as needed.

A number of automobile baby bottle warmers are on the market. Consumers' Research tested two, the *Allstate* distributed by Sears, Roebuck & Co., and the *Formulette* put out by Formulette, Inc., of Jamaica, N.Y. An announcement in a hobbyist's magazine about the *Formulette* caught our eye because it described an "underwriters laboratory approved extra long four foot safety cord," but there was no clue as to whether or not the bottle warmer itself was approved by Underwriters' Laboratories, Inc.

Such a reference to U.L. approval for a part or accessory only, rather than the whole advertised product, is a device often used in advertising of electrical appliances. Most readers of advertisements will suppose that mention of the Underwriters' Laboratories' name means that this well-known organization has approved or "listed" the product.

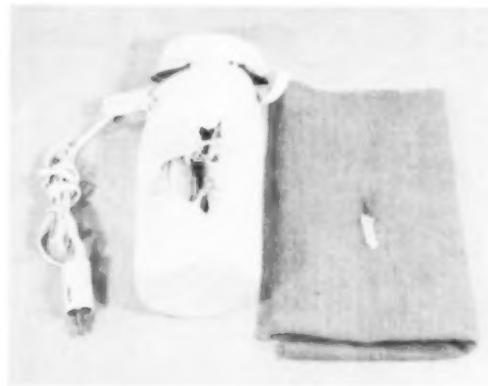
Formulette and *Allstate* bottle warmers were ordered by mail. When they arrived, we found no *UL* symbol on any part of the *Formulette*, but the claim of a *U.L.-approved cord* appeared on the plastic-film container. The *Allstate* warmer was not listed by Underwriters' Laboratories either, but at least Sears made no possibly misleading mention of *U.L.* in their catalog, on the device, or on its cardboard box.

The wiring of the *Formulette* could be changed by the user in a simple manner for cars with either 6- or 12-volt battery supplies. The *Allstate* was designed for 12-volt systems only. Tests showed that either device would do its job fairly well in any of the newer cars that have a 12-volt electrical supply; the *Allstate* was appreciably faster. In an older car with a 6-volt battery, if the *Formulette* were relied upon in accordance with the manufacturer's claims, baby might cry for quite a while before his bottle would be warmed sufficiently.

It took about an hour and a quarter to bring milk in a plastic nursing bottle from a temperature of 40 degrees to 98 degrees Fahrenheit with the cigarette-lighter-type plug of the *Formulette* connected to a 6-volt supply. With a 12-volt battery and with the connections inside the *Formulette* rearranged for 12-volt operation according to the instructions, raising the milk's temperature through the same range required about half an hour. It was not at all astonishing that the *Formulette* worked considerably faster at 12 volts than at 6 volts since, at the higher voltage, when internal connections were arranged as indicated, the unit drew about $2\frac{1}{2}$ times as much energy (watts) as when the device was connected for 6 volts. The *Allstate* with its single wiring arrangement, for 12 volts only, took but 14 minutes to heat milk from 40 degrees to 98 degrees.

Instructions printed inside the *Formulette*'s lid advised "CAUTION: Remove plug when bottle reaches proper temp." Having in mind the possibilities in use of a warmer by a parent distracted by an ailing or obstreperous infant, if the mother or father should fail to heed such a printed warning, we tried leaving each warmer plugged in after the baby's bottle had been removed. The

(Concluded on page 26)



The *Formulette* bottle warmer after overheating, as described in text. Alongside is a scorched cloth that was in contact with the bottle warmer. The white strip is some of the melted plastic.

CONSUMER BULLETIN'S ANNUAL AUTOMOBILE ISSUE— REPORTS ON THE NEW CARS

In our June issue

Test results and the judgments of experts on the new 1961 full-sized automobiles, along with recommendations of the preferred U.S.-built cars in the several price classes—with second and third choices. The selections have been made with the needs of the typical American family in mind.

In addition the issue includes detailed reports on the following full-sized 1961 cars: Buick Le-Sabre, Chrysler Newport, Mercury Meteor, Oldsmobile Dynamic, Plymouth Fury, and Rambler Ambassador V-8.

For the readers' convenience, we will present also a brief resumé of findings on the compact cars.

ALSO COMING

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